**Personal Finance Advisor Agent**

**Problem Statement:**

People often find budgeting, expense tracking, and investment planning overwhelming. Existing tools lack personalization and interactive guidance, making it difficult for users to manage finances effectively.

**Goal:**

Build a virtual AI agent that helps users analyze their income, expenses, and financial goals through natural language interaction. The agent should categorize transactions, detect trends, simulate "what-if" financial decisions, and provide personalized advice.

**Value Proposition**

* Empowers users to manage finances intelligently
* Offers personalized suggestions for budgeting, saving, or investing
* Simulates financial decisions (e.g., "Should I refinance my loan?")
* Can evolve into a secure personal finance assistant

**Scope:**

* LLM-based financial chatbot
* Expense categorization and trend detection
* Budget planning logic
* Use of mock financial data/APIs (e.g., yfinance, Plaid sandbox)
* Basic web-based chat interface

Further Improvements:

* + Real-time connection to user bank accounts
  + Mobile app deployment or voice support
  + Investment or legal financial advice (compliance-sensitive)

**Key Lean Metrics:**

* Budget accuracy vs. actual spending
* Correctness of financial suggestions
* User satisfaction and engagement score
* Response time to user queries

**Sprint Plan with User Stories**

**Sprint Duration**: 1 week  
**Team**: AI Engineer, Backend Developer/Data Engineer, Test Engineer, Frontend/UI Developer

**Sprint 1: Data Setup & Use Case Design**

**Goal:** Prepare financial datasets and define target user interactions.

**User Stories:**

* Data engineer should generate mock financial transaction data so the agent can practice expense categorization and budget planning.
* Product owner should define common user goals (e.g., “track spending”, “suggest budget”) so the chatbot can respond to real needs.
* Frontend/UI Developer should define dialog flows for budgeting and advice, so the interaction feels natural and guided.

**Deliverables:**

* Simulated user transaction and balance data
* Use case document with 5–10 target user intents
* Sample chat dialogues for testing

**Sprint 2: Core Agent Logic & LLM Integration**

**Goal:** Build core functionalities like categorization and LLM-based budgeting advice.

**User Stories:**

* AI Engineer should connect an LLM with LangChain to interpret user queries and return financial insights.
* Backend Developer/Data Engineer should build logic to categorize expenses and calculate suggested budgets from historical data.
* A Test Engineer evaluate agent responses to ensure accuracy and relevance.

**Deliverables:**

* LLM prompt templates (e.g., “summarize spending trends”, “recommend budget”)
* Expense categorization script
* Initial chatbot responses to sample queries

**Sprint 3: Chat UI & Financial Tools Integration**

**Goal:** Develop user-facing chat interface and integrate APIs/libraries.

**User Stories:**

* Users should be able to chat with a finance bot and get advice based on my data so I can make better financial decisions.
* Frontend/UI Developer should build a responsive chat UI using Streamlit or Gradio.
* AI Engineer and Backend Developer/Data Engineer should pull basic financial data using sources such yfinance or Alpha Vantage to simulate investment planning.

**Deliverables:**

* Functional chatbot interface
* Financial data API integration (mocked)
* Dashboard view of categorized expenses and trends

**Sprint 4: Testing, Feedback & Personalization**

**Goal:** Finalize features, personalize advice, and test with users.

**User Stories:**

* Test Engineer should validate all user flows and measure chatbot output accuracy.
* Team lead collect user feedback on clarity, relevance, and value of financial advice.
* AI Engineer should add simple simulations such as “What if I save $200/month?” or “Should I refinance my loan?”

**Deliverables:**

* Test results and feedback summary
* Scenario-based responses for savings or loan queries
* Final MVP demo and project documentation

**Continuous Improvement Plan:**

* Add real-time bank account linking (with user permission)
* Integrate investment planning modules and risk profiling
* Develop a mobile version or voice assistant interface
* Expand to corporate expense tracking or SME financial tools