AI-Powered Personal Finance Coach - Architectural Diagrams

Domain: FinTech / Personal Finance  
**FinTech / Personal Finance** The system operates within the financial technology (FinTech) domain, focusing on personal finance management. It helps users track expenses, set budgets, and receive AI-driven financial recommendations.

Problem Statement:

Many individuals struggle with managing their finances effectively, leading to overspending, lack of savings, and financial stress. This system helps users by automatically tracking expenses, categorizing transactions, and providing AI-driven recommendations to optimize budgeting and savings. The goal is to enhance financial literacy and promote responsible spending habits through real-time insights.

Individual Scope & Feasibility:

This project is feasible due to the following factors:

* Availability of AI Technology: Existing machine learning algorithms can analyze financial data and provide insights.
* Secure Data Management: Implementation of encryption and authentication ensures privacy and security.
* User Demand: There is an increasing need for smart financial tools to help individuals manage their money effectively.
* Scalability: The system can be extended to support various financial goals and user needs.

**System Context Diagram**

The system context diagram illustrates how external users interact with the AI-Powered Personal Finance Coach.

A diagram of a flowchart

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* The User logs transactions into the FinanceCoachApp.
* The FinanceCoachApp processes and sends data to the AI Engine.
* The AI Engine analyses spending patterns and provides recommendations to the User Dashboard.

**Container Diagram**  
This diagram provides an overview of the major system components and their interactions.

A diagram of a user

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* The User logs transactions via the Web Application.
* The Web Application stores financial data in either a Relational Database (SQL) or NoSQL Database (MongoDB, Firebase, etc.).
* The AI Budgeting Engine processes spending data and provides financial insights.

**Component Diagram**

This diagram illustrates the internal components of the system and their interactions.

A diagram of a software flowchart

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* The User interacts with the Frontend UI to input and view financial data.
* The Frontend UI communicates with the Backend API for processing.
* The Backend API stores transactions in either a Relational (PostgreSQL, MySQL) or NoSQL (MongoDB, Firebase) database.
* The AI Model generates budget recommendations and sends insights back to the Frontend UI.