High Level Design Document

Introduction

This High Level Design (HLD) document outlines the architecture and core components for **FinSight - Personal Finance Trends Visualizer**. The project aims to deliver a Tableau dashboard that visualizes personal finance data, including income, expenses, and savings, with calculated fields for monthly trends and spending category highlights.

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1. System Architecture Overview

Architecture Description:
FinSight is a data analytics solution centered on Tableau. It ingests personal finance data, processes it for analysis, and presents interactive dashboards for end-users.

Module	Role
Data Source	Stores raw personal finance data (CSV, Excel, or database)
Data Preparation	Cleans, transforms, and aggregates data for analysis
Tableau Data Model	Defines calculated fields, measures, and dimensions
Tableau Dashboard	Visualizes trends, categories, and highlights for end-users

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2. Component Interactions

Step	Interaction Description
1	Data Source provides raw finance data to Data Preparation module
2	Data Preparation outputs cleaned/aggregated data to Tableau Data Model
3	Tableau Data Model structures data and defines calculations for trends and categories
4	Tableau Dashboard consumes the model and presents interactive visualizations

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3. Data Flow Overview

Source Component	Target Component	Data/Action Description
Data Source	Data Preparation	Import raw income, expenses, and savings data
Data Preparation	Tableau Data Model	Output cleaned, structured, and aggregated data
Tableau Data Model	Tableau Dashboard	Provide calculated fields and dimensions for visualization

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4. Technology Stack

Layer/Function	Technology/Tool
Data Storage	CSV, Excel, or Database
Data Preparation	Tableau Prep or Tableau built-in ETL
Data Analytics & Visualization	Tableau Desktop/Public

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5. Scalability & Reliability

- **Scalability:** Designed for individual or small team use; can scale to larger datasets by connecting Tableau to scalable databases.
- **Reliability:** Relies on Tableau's robust data handling; data integrity ensured via preparation steps.
- **Security:** Sensitive data remains local or within secure Tableau environments; access controlled via Tableau permissions.

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