



Report – AI-Powered Investment Dashboard: Leveraging Fi Money's MCP Server for Personalized Financial Insight

Mentor –

Mr. Preshit Desai

Remarks

Team Members –

Ayush Goswami (2315510047)

Kush Kumar (2315510108)

Ashwani Chauhan (2315510045)

Date of Submission - _____

INDEX

S. No.	Section Title	Page No.
1	Introduction	1
2	Week-wise Timeline	2
3	Individual & Technical Contributions	3
4	System Architecture	4
5	Research & Technical Concepts	5
6	Code, UI & Output Snapshots	6

INTRODUCTION

1.1 Problem Overview

- In the modern financial ecosystem, **investors face increasing complexity** in managing diverse portfolios across multiple asset classes.
- The **need for secure, personalized, and real-time insights** is growing rapidly as traditional financial tools often fail to adapt to individual investor profiles.
- Most existing dashboards provide **generic analytics and static data visualizations**, resulting in:
 - Limited personalization for users.
 - Inefficient decision-making.
 - Missed opportunities for portfolio optimization and growth.

1.2 Project Objective

- The **AI-Powered Investment Dashboard** is designed to overcome these limitations by integrating **artificial intelligence, data analytics, and modern web technologies**.
- Its primary goal is to **empower investors** with:
 - Tailored investment recommendations.
 - Real-time portfolio tracking.
 - Dynamic risk assessment.
 - Actionable financial insights that adapt to market fluctuations and personal investment goals.

1.3 System Concept

- The project integrates with **Fi Money's Multi-Category Portfolio (MCP) Server**, which acts as a central data source for various investment categories such as equities, mutual funds, and crypto assets.
- Through this connection, the dashboard delivers:
 - **Real-time data synchronization** for accurate portfolio updates.
 - **Machine Learning-driven insights** for risk profiling and investment strategy optimization.
 - **Customized dashboards** that evolve based on user behavior and preferences.

1.4 Key Features

1. AI-Based Risk Profiling:

- Uses TensorFlow models to analyze historical and behavioral data.
- Categorizes users into different risk segments (e.g., conservative, balanced, aggressive).

2. Personalized Recommendations:

- Suggests investment actions such as asset reallocation or diversification.
- Aligns recommendations with users' financial goals and market conditions.

3. Real-Time Analytics:

- Continuously monitors market trends and updates portfolio performance.
- Displays interactive charts and visualizations for better decision-making.

4. Secure Authentication:

- Implements **OAuth and Clerk APIs** for user verification and data protection.
- Ensures compliance with fintech-grade security standards.

5. Optimized User Experience:

- **React.js frontend** delivers a fast, responsive interface with a load time under 3 seconds.
- **Node.js backend** manages APIs and ensures scalability for large user bases.
- **Modular architecture** supports future integration with additional AI or financial services.

Week-wise Project Timeline

Week	Duration	Task Description	Assigned Member(s)	Status
1	1–7 Sep 2025	Requirement Freeze and SRS Drafting	Ayush, Kush, Ashwani	Completed
2	8–14 Sep 2025	Architecture Design & Setup	Kush, Ashwani	Completed
3	15–21 Sep 2025	Authentication Module (OAuth, SMTP)	Kush, Ashwani	Completed
4	22–28 Sep 2025	Portfolio Data Integration	Kush, Ashwani	Completed
5	29 Sep–5 Oct 2025	AI Recommendation Engine (TensorFlow)	Kush	Completed
6	6–12 Oct 2025	Analytics & Search Features	Ashwani	Completed
7	13–19 Oct 2025	Testing & Bug Fixing	Ashwani	Completed
8	20–26 Oct 2025	Release Preparation	Ayush, Ashwani	Completed
9	27 Oct–2 Nov 2025	User Testing & Feedback	Team	Planned
10	3–9 Nov 2025	Final Release & Demo	Team	Planned

3. Individual & Technical Contributions

The project was executed collaboratively with well-defined roles and responsibilities to ensure smooth progress in design, development, testing, and deployment. Each member contributed to both the **technical** and **documentation** aspects of the AI-Powered Investment Dashboard.

Below is the detailed contribution summary:

Member Name	Enrollment No.	GitHub Branch	Primary Responsibilities	Detailed Contributions
Ayush Goswami	2315510047	Winters-Ayush	Frontend Development & UI Design	<ul style="list-style-type: none">- Designed and developed React.js components for the dashboard interface.- Implemented Routing and Navigation using React Router.- Worked on Responsive Layouts and Styling using CSS and Tailwind.- Created dynamic charts and portfolio visualization components.- Integrated frontend with REST APIs for data fetching and updates.- Ensured a smooth user experience with fast load times and component optimization.
Kush Kumar	2315510108	Winters-Kush	Backend Development & AI Integration	<ul style="list-style-type: none">- Developed and managed Node.js backend APIs for data exchange between frontend and server.- Implemented AI logic using TensorFlow for risk profiling and personalized investment recommendations.- Integrated Fi Money MCP Server API for fetching real-time portfolio data.- Ensured data security

				and validation during transactions. - Contributed to server optimization and API documentation . - Managed CI/CD pipeline setup for automated builds and deployments.
Ashwani Chauhan	2315510045	Winters-Ashwani	Frontend Integration, Testing & Documentation	- Integrated frontend and backend modules , ensuring seamless data flow. - Conducted unit testing and debugging across all modules to ensure reliability. - Worked on user authentication system using OAuth and Clerk APIs. - Assisted in UI refinement and functionality testing for real-time updates. - Prepared detailed project documentation , report formatting, and presentation slides. - Coordinated team communication and version control through GitHub.

3.1 Collaboration and Version Control

- The team collaborated through **GitHub** for source code management and synchronization.
- Each member worked on their **individual branches**, ensuring modular development and clean merges.
- Regular commits, code reviews, and **pull requests** were used to maintain project consistency.
- Continuous Integration / Continuous Deployment (**CI/CD**) pipelines ensured automated testing and deployment for smooth version updates.

System Architecture

The system follows a layered architecture ensuring modularity and scalability.



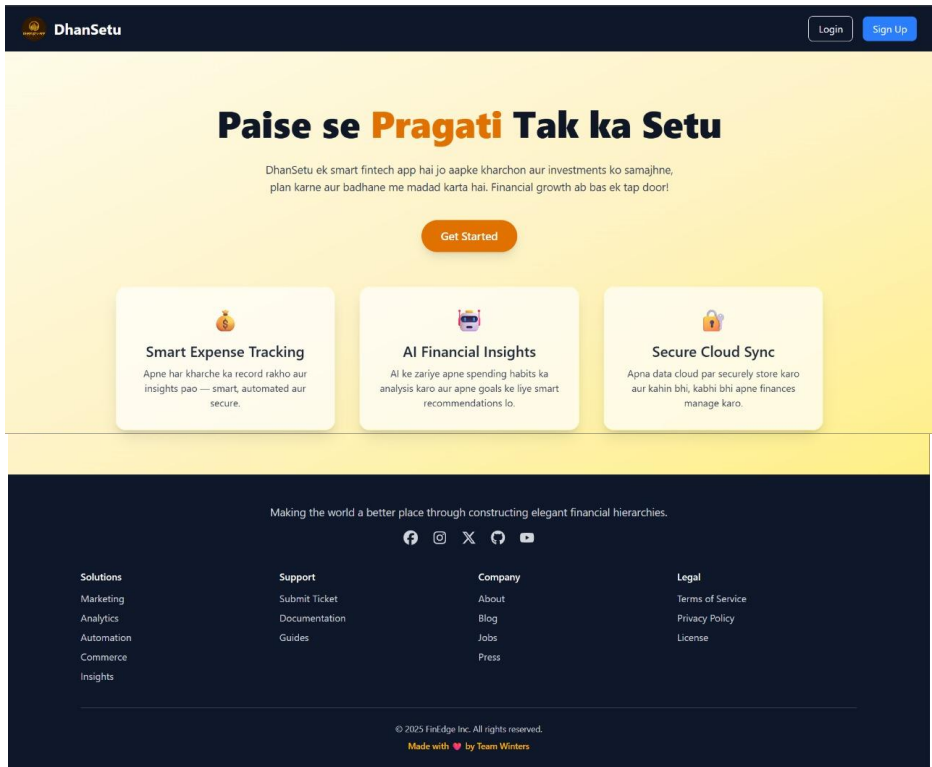
- **Frontend Layer (React.js):** Handles user interface, displaying portfolio data and AI insights.
- **Backend Layer (Node.js + Express):** Manages API communication, server logic, and data flow.
- **Authentication Layer (Clerk / OAuth):** Provides secure login and session management.
- **AI Layer (TensorFlow):** Analyzes financial data to generate personalized investment recommendations.
- **External Integration (Fi Money MCP Server):** Supplies real-time financial data for portfolio tracking.

Research & Technical Concepts

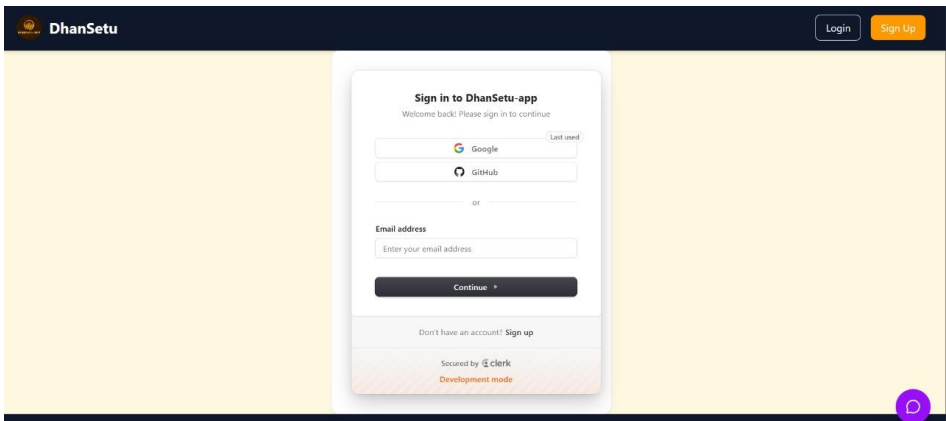
Technology / Tool	Purpose & Role in the System
React.js	Used for building a modular, component-based frontend that ensures fast rendering, easy maintenance, and responsive UI. Enables dynamic visualization of financial data and AI-driven recommendations.
Tailwind CSS	Simplifies UI styling with utility-first design, ensuring responsive layouts and modern aesthetics.
Node.js & Express.js	Serve as the backend framework , enabling asynchronous handling of API requests, faster data processing, and smooth communication between frontend, AI layer, and external APIs.
Clerk API (OAuth 2.0)	Provides secure user authentication and session management, ensuring only authorized users access portfolio data. Supports email and multi-factor login flows.
Fi Money MCP Server	Acts as an external data source , supplying real-time financial data for multi-category portfolios. Facilitates dynamic portfolio updates and live analytics.
Gemini API	Integrated to enable an AI-powered chatbot for personalized financial guidance and conversational insights.
MongoDB / PostgreSQL	Database layer for storing user profiles, portfolio data, and recommendation results securely and efficiently.
GitHub (Version Control)	Used for collaborative development , maintaining separate branches (Winters-Ayush, Winters-Kush, Winters-Ashwani) and ensuring structured CI/CD pipeline deployment.
Cloud Deployment (AWS / Vercel)	Enables scalable hosting of both frontend and backend services with high availability and minimal latency.

Code, UI & Output Snapshots


1. Home Page




2. Login Page



3. Dashboard


DhanSetu



D

Dhansetu
Personal Finance Dashboard

Hi: **Ayush**
Logout

Account Balance

₹1,25,000 +12.8%

Available across accounts

Monthly Income

₹45,000

Salary + Freelance

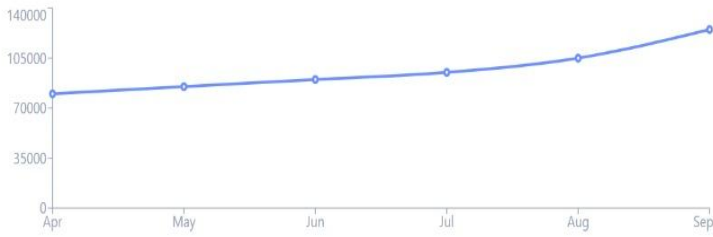
Monthly Expenses

₹28,500

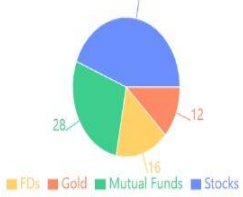
Last 30 days


Net Worth Trend

Last 6 months




Portfolio Mix





Market Overview


BSE Sensex Trend



NSE Nifty 50 Trend



Gold Bond Price Trend




AI Insights

- Consider shifting 5% from stocks to debt for stability.
- Emergency fund: Aim for 3 months expenses (₹65,500).
- Top expense categories: Food, Subscriptions, Travel.

Upcoming Payments

- Home Loan EMI — 15 Nov — ₹35,000
- Credit Card Due — 02 Dec — ₹12,400

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4. AI Assistant

