BudgetWise AI based Expense Forecasting Tool
(Infosys Springboard 6.0)

Abstract

BudgetWise: AI-based Expense Forecasting Tool is an intelligent financial management system that combines **expense tracking, machine learning, and predictive analytics** to help individuals and small businesses plan their budgets more effectively. Unlike traditional budgeting apps that only record past transactions, BudgetWise applies **AI models** to forecast future expenses, detect spending patterns, and provide personalized financial insights.

The system architecture integrates a **React.js front-end dashboard** for interactive visualization, a **Node.js + Express backend** for secure APIs, and **MongoDB** for scalable data storage. A dedicated **AI module (Prophet/LSTM)** processes historical transaction data to predict upcoming costs, seasonal variations, and potential budget overruns. Users can receive **alerts, visual trend analysis, and saving recommendations**, thereby gaining proactive financial control.

By offering a seamless and intelligent budgeting experience, BudgetWise aims to reduce overspending, promote financial awareness, and assist in long-term planning. Its scalability also opens pathways for future enhancements such as **bank API integration, group budgeting, and AI-driven financial chatbots**.

Keywords: Expense Tracking, AI Forecasting, Machine Learning, Budget Optimization, Predictive Analytics, Financial Planning