# Product Backlog Requirement Document (PBRD)

Project Title: BudgetWise AI — Intelligent Expense Forecasting Tool

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Date:

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## 1. Project Overview

Objective:  
To develop an AI-powered expense forecasting tool that helps individuals and organizations predict future expenses based on historical data, categorize spending, and stay within budget.

Description:  
BudgetWise AI leverages artificial intelligence and predictive analytics to analyze spending patterns, detect trends, and forecast upcoming expenses. The system provides insights, budget recommendations, and alerts for potential overspending.

Target Users:  
- Individual users (personal finance management)  
- Small and Medium Enterprises (SMEs)  
- Financial analysts and corporate finance departments

## 2. Core Features (Product Backlog Items)

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| --- | --- | --- | --- | --- |
| ID | Feature Name | Description | Priority | Sprint |
| PBI-001 | User Authentication & Profile Management | Secure sign-up, login, and user profile management | High | Sprint 1 |
| PBI-002 | Expense Entry & Categorization | Add, edit, and delete expenses manually or via import (CSV/Excel). Automatically categorize using AI. | High | Sprint 1 |
| PBI-003 | Budget Setup | Allow users to set monthly/annual budgets per category. | High | Sprint 2 |
| PBI-004 | AI-based Expense Forecasting | Predict future expenses based on trends, seasonality, and spending history using ML models. | High | Sprint 2 |
| PBI-005 | Visualization Dashboard | Interactive charts and graphs for budget vs actual, trend analysis, and category-wise spending. | High | Sprint 3 |
| PBI-006 | Anomaly Detection & Alerts | Detect irregular or unexpected spending and send notifications. | Medium | Sprint 3 |
| PBI-007 | Data Import & Integration | Integration with bank APIs or Excel uploads for automatic data sync. | Medium | Sprint 4 |
| PBI-008 | Report Generation | Generate downloadable reports (PDF, Excel) for monthly or quarterly summaries. | Medium | Sprint 4 |
| PBI-009 | Multi-User & Role Access (for SMEs) | Allow team accounts with different roles (Admin, Accountant, Viewer). | Low | Sprint 5 |
| PBI-010 | AI Chat Assistant | Let users query expenses in natural language. | Low | Sprint 5 |

## 3. Functional Requirements

- User Management: Users can register, login, and manage profiles.

- Expense Management: Add, edit, delete expenses, import CSV, auto-categorize using ML.

- Forecasting: Use models like Prophet, ARIMA, or LSTM for prediction.

- Visualization: Dynamic dashboards using Chart.js or Recharts.

- Budget & Alerts: Set budget limits, receive alerts for threshold breaches.

- Reports: Export insights as PDF or Excel.

- AI Assistant: Built-in NLP interface for finance queries.

## 4. Non-Functional Requirements

- Performance: System should handle up to 10,000 expense entries per user.

- Security: Data encrypted using AES-256; HTTPS enforced.

- Scalability: Support multiple users and future integrations.

- Usability: Clean UI/UX optimized for both web and mobile.

- Availability: 99.5% uptime with cloud deployment.

## 5. Tech Stack (Suggested)

Frontend: React.js + Tailwind CSS  
Backend: Node.js / Express  
Database: MongoDB / PostgreSQL  
AI/ML: Python (Flask/FastAPI)  
Visualization: Recharts / Chart.js  
Deployment: Vercel (Frontend), AWS/Render (Backend)