# SRS Document

### 📝 Problem Statement

Managing personal finances and investments, especially stocks, has become increasingly complex. Many users lack a centralized platform that allows them to track income, expenses, savings goals, and monitor real-time stock market performance. Current solutions are either too complex for casual users or lack key features like budgeting, real-time stock tracking, or investment insights.

This project aims to develop a **Full Stack .NET-based Financial Management System** that provides users with tools to manage their personal finances and monitor their stock investments. The system will support budget tracking, expense logging, financial analytics, and integrate real-time stock data via a public API (e.g., Alpha Vantage, IEX Cloud, or Yahoo Finance).

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**Software Requirements Specification (SRS)**

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## 1. Introduction

### 1.1 Purpose

To provide users with a web-based financial management system that combines budgeting tools and real-time stock market insights into a single, user-friendly platform.

### 1.2 Scope

The system will allow users to:

- Manage income, expenses, and budgets.
- Visualize financial data through graphs/charts.
- Track and analyze stock market investments in real time.
- View stock performance, trends, and historical data.

### 1.3 Intended Audience

- Individuals looking to manage personal finances and investments.
- Finance students or enthusiasts.
- Early-stage investors.

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## 2. Overall Description

### 2.1 Product Perspective

This is a standalone web application developed using the .NET stack. It will use:

- **Frontend**: React.js or Angular
- **Backend**: ASP.NET Core Web API
- **Database**: SQL Server
- **Stock API**: Alpha Vantage, Yahoo Finance, or equivalent

### 2.2 Product Functions

- **User Authentication** (Register/Login with JWT)
- **Dashboard** (Financial summary, stock watchlist)
- **Expense & Income Management**
- **Budget Tracking**
- **Financial Reports** (Pie charts, bar graphs)
- **Stock Market Module** (Real-time prices, search by ticker)
- **Notifications/Reminders** (Optional)

### 2.3 User Characteristics

Users will be general consumers with basic finance knowledge. The interface will prioritize usability and minimal learning curve.

### 2.4 Constraints

- Must run on modern browsers.
- Responsive UI for mobile and desktop.
- Use secure APIs and follow best practices for authentication.

### 2.5 Assumptions and Dependencies

- Users have access to internet and a modern device.
- Stock data APIs remain publicly accessible (or require affordable keys).
- SQL Server and hosting environment (e.g., Azure) are available.

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## 3. Specific Requirements

### 3.1 Functional Requirements

- FR1: User can register and log in securely.
- FR2: User can add/edit/delete income and expenses.
- FR3: User can create budgets and set financial goals.
- FR4: System calculates monthly summaries and trends.
- FR5: User can search for stock symbols and track price changes.
- FR6: Stock module displays real-time and historical data via charts.
- FR7: Notifications for budget limits and stock price alerts.

### 3.2 Non-Functional Requirements

- NFR1: System should respond within 2 seconds for 95% of transactions.
- NFR2: System uptime should be at least 99%.
- NFR3: User data must be encrypted and securely stored.
- NFR4: The application must be scalable to support 1000+ users.

### 3.3 External Interface Requirements

- API: Alpha Vantage/Yahoo Finance integration.
- Web: Modern UI using responsive frameworks.
- Database: SQL Server or PostgreSQL with normalized schema.

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## 4. Future Enhancements

- AI-based financial recommendations.
- Support for crypto tracking.
- Export data to Excel/PDF.
- Multi-user collaboration (e.g., family finance).