User Requirement Specification Document

Portfolio Management System

Document Revision History

Version	Date	Description	Author
1.0	09-10-2023	Initial Draft	Sathwik HJ, Rohit P Suresh

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1. Introduction

1.1 Purpose of the Document

The purpose of this document is to outline the user requirements for a Portfolio Management System. This system will provide functionalities related to managing user portfolios, tracking company details, transactions, company performance, and watchlists.

1.2 Scope of the System

The Portfolio Management System will allow users to create and manage their investment portfolios, monitor company details and performance, track transactions, and maintain watchlists. The system will serve as a comprehensive tool for users to make informed investment decisions.

1.3 Definitions and Abbreviations

- **User:** An individual who accesses and uses the Portfolio Management System.
- **User Portfolio:** A collection of investments owned by a user.
- **Company Details:** Information related to companies, such as name, symbol, and financial data.
- **Transaction:** A record of buying or selling securities within a user's portfolio.
- **Company Performance:** Data and metrics representing the performance of a company.
- **Watchlist:** A list of companies or securities that a user wishes to monitor.

2. User Requirements

This section outlines the high-level requirements for each of the main system entities.

2.1 User Management

Users should be able to create and manage their accounts.
Users should have the ability to update their profile information.

The system should support user authentication and authorization.

2.2 User Portfolio

Users should be able to create, edit, and delete portfolios.
Each portfolio should allow users to add and manage various investments.
Users should be able to view the current and historical performance of their portfolios.

2.3 Company Details

Users should have access to a database of company details, including names, sectors, and financial information.
Users should be able to search and filter companies based on various criteria.
Company details should be regularly updated.

2.4 Transaction

Users should be able to record buying and selling transactions for securities within their portfolios.
The system should calculate and display the user's portfolio balance and performance based on transactions.
Users should be able to generate transaction reports.

2.5 Company Performance

Users should be able to access historical performance data for specific companies.
The system should provide charts and graphs to visualize company performance over time.

2.6 Watchlist

Users should be able to create and manage watchlists of companies or securities they want to monitor.

Users should receive notifications or updates about the companies in their watchlists.

3. Functional Requirements

This section provides more detailed functional requirements for each of the system entities.

3.1 User Management

- Users shall be provided a unique username and password during registration.
- The system shall implement password encryption for user security.
- Users shall be able to reset their passwords through email verification.
- User roles (e.g., admin, regular user) shall be defined to manage access permissions.

3.2 User Portfolio

- Users shall be able to add, edit, and delete investments within a portfolio.
- Each investment shall have attributes such as name, quantity, purchase date, and purchase price.
- The system shall calculate and display the current value and return on investment (ROI) for each investment.
- Users shall be able to view portfolio performance in terms of total value, ROI, and other metrics.

3.3 Company Details

- Company details shall include name, sector, market cap, and financial indicators (e.g., revenue, profit).
- Users shall be able to search for companies by name, sector, or other criteria.
- Data for company details shall be sourced from reliable financial databases.

3.4 Transaction

- Users shall be able to record buy and sell transactions with date, security, quantity, and price.
- The system shall calculate the impact of transactions on the user's portfolio balance.
- Users shall be able to generate transaction history reports for tax and analysis purposes.

3.5 Company Performance

- Historical performance data shall include stock price history, market trends, and financial metrics.
- Users shall be able to access historical performance charts with options for time periods.
- The system shall provide comparisons of a company's performance with industry benchmarks.

3.6 Watchlist

- Users shall be able to add and remove companies or securities from their watchlists.
- The system shall provide real-time or periodic updates on companies in the watchlist.
- Users shall receive notifications for significant news or events related to their watchlist items.

4. Non-Functional Requirements

This section outlines non-functional requirements that describe the system's performance, security, usability, and scalability.

4.1 Performance

- The system shall respond to user requests within a maximum of 2 seconds.
- The system shall be able to handle a concurrent user load of at least 1000 users.

4.2 Security

- User data, including passwords, shall be securely stored and encrypted.
- User authentication and authorization mechanisms shall be robust and secure.

- The system shall implement role-based access control to manage user permissions.

4.3 Usability

- The user interface shall be intuitive and user-friendly.
- The system shall provide help and support features for users.
- Accessibility standards shall be followed to ensure usability for all users.

4.4 Scalability

- The system architecture shall be designed to accommodate future growth and increased user load.
- Scalability measures shall be in place to add more company data and historical performance data.

5. Constraints

- The system development budget is limited to a specific amount.
- The system must comply with applicable financial regulations and data privacy laws.

6. Assumptions

- Users have access to a standard web browser and internet connectivity.
- Reliable sources of company data and historical performance data are available.

7. Dependencies

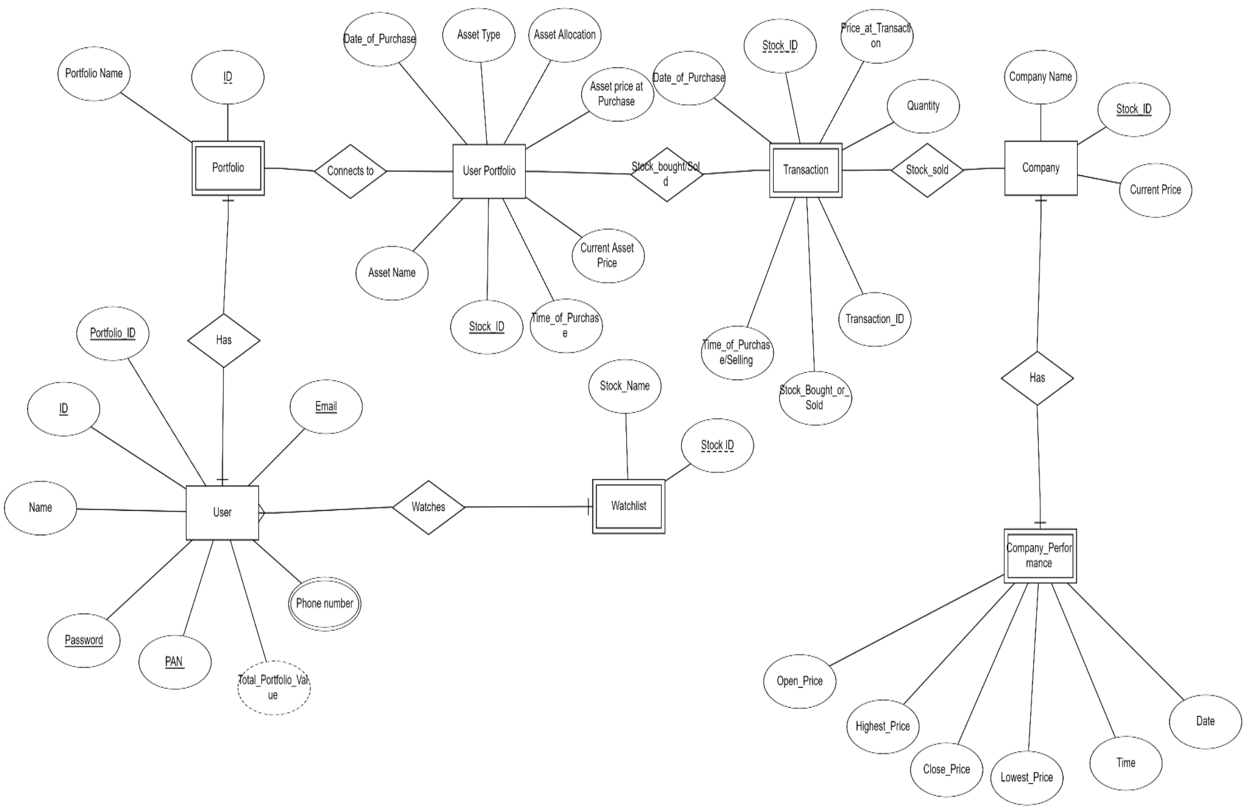
- The system may depend on third-party APIs or data providers for financial data.

8. Appendix A: Glossary

- **PMS (Portfolio Management System)**: Software for managing investment portfolios.

- **User**: Individuals using the PMS.
- **User Portfolio**: Container for managing investments.
- **Company Details**: Info about companies and stocks.
- **Transaction**: Records of buying/selling assets.
- **Company Performance**: Historical/current performance data.
- **Watchlist**: Tracking list for non-owned assets.
- **Authentication**: User identity verification.
- **Authorization**: Access control based on roles.
- **Encryption**: Data protection through coding.
- **Data Backup**: Copying and storing data.
- **Data Recovery**: Restoring lost data.
- **Scalability**: Handling growth without performance loss.
- **UI (User Interface)**: Visual and interactive components.
- **Performance Metrics**: System speed and efficiency measures.
- **Regulatory Compliance**: Adherence to industry laws and standards.
- **Customizable Reports**: User-configurable reports.
- **Technical Support**: Assistance for technical issues.
- **Helpdesk Services**: Support for problem resolution.

ER DIAGRAM



Portfolio Name
ID
Portfolio
Connects to
Date_of_Purchase
Asset Type
Asset Allocation
Asset price at Purchase
User Portfolio
Asset Name
Stock_ID
Time_of_Purchase
Current Asset Price
Stock_bought/Sold
Date_of_Purchase
Stock_ID
Price_at_Transaction
Quantity
Transaction
Time_of_Purchase/Selling
Stock_Bought_or_Sold
Transaction_ID
Stock_sold
Company Name
Stock_ID
Company
Current Price
Has
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Email
Name
User
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Phone number
Watches
Stock_Name
Stock ID
Watchlist
Has
Company_Performance
Open_Price
Highest_Price
Close_Price
Lowest_Price
Time
Date

RELATIONAL SCHEMA