Equity Performance Tracker – Application Summary

**Equity Performance Tracker** is a Razor Pages web application built on .NET 9 and C# 13.0, designed to help users manage and analyze their equity investment portfolios.

**Purpose:**  
The application enables users to track, analyze, and optimize their equity investments by providing detailed portfolio analytics, transaction history, and real-time performance metrics.

Core Features

* **Portfolio Management:**  
  Users can create, update, and delete portfolios, each containing multiple holdings. Portfolios track initial and current values, descriptions, and performance history.
* **Holdings Tracking:**  
  Each portfolio contains holdings representing individual equities. Holdings store details such as symbol, company name, shares owned, purchase price, current price, and calculated metrics like gain/loss.
* **Transaction Management:**  
  Users can record buy and sell transactions for holdings. Transactions include details like type (buy/sell), shares, price, date, and notes. The system validates share sales and maintains transaction history.
* **Performance Analysis:**  
  The application generates performance snapshots for portfolios, tracking daily and total changes in value and gain/loss percentages.
* **User-Specific Data:**  
  Portfolios and holdings are associated with individual users, supporting multi-user scenarios.

Architecture

* **Core Models:**
  + Portfolio: Represents a user's investment portfolio.
  + PortfolioHolding: Represents an equity holding within a portfolio.
  + Transaction: Records buy/sell actions for holdings.
  + PerformanceSnapshot: Captures periodic performance data for a portfolio.
* **Services:**
  + IPortfolioService: Interface defining portfolio, holding, transaction, and performance operations.
  + Additional services for user management, subscriptions, and external data integration (e.g., Alpaca API).
* **Data Layer:**  
  Uses Entity Framework Core for data persistence, with migrations for schema management.
* **UI:**  
  Razor Pages for portfolio creation, listing, details, and transaction management. Shared views for authentication and validation.

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