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# Financial Data Viewer and Analyzer

The Financial Data Viewer and Analyzer (FDVA) provides detailed financial data for 100 selected companies listed in the S&P 500. It includes information such as Trading Symbol, Company Name, Sector, Industry, Country, Currency, Market Capitalization, Shares Outstanding, Current Price, Revenue, Enterprise Value, Beta, Book Value, and Price-To-Book Ratio.

**Core Functionality from the Home Page**:

* **Data Interaction**: Offers sorting, pagination, and filtering options for efficient and effective analysis once data is displayed on the user interface.
* **CRUD Operations**: Supports Create, Read, Update, and Delete operations directly from the user interface.

**Advanced Features**:

* **Market Capitalization Analysis**:
  + Retrieve companies with a market capitalization exceeding $1 trillion.
* **Historical Data Access**:
  + Access the highest price history for selected companies over the past year.
  + Obtain full price histories for selected companies (trading symbols).
* **Data Visualization**:
  + Visualize data with bar charts for the highest pricing of selected companies.
  + Utilize pie charts to represent the market standings of selected companies visually.
* **Machine Learning Analysis**:
  + Implement a Python machine learning model for Linear Regression and RMSE (Root Mean Square Error) calculations dynamically for any trading symbol.

**System Architecture**:

* **Three-tier architecture**
  + **Backend Database**: MongoDB
  + **REST API**: Python Flask
  + **Web User Interface**: Developed using the Angular Material framework.

**Financial Data Integration**:

* Developed an ETL process to load real financial data, sourced from the Yahoo Finance API and other financial modules.