

User Scenarios

We're providing user scenarios to describe how different users (or systems) will interact with the application. They provide a narrative for understanding how the functional and non-functional requirements are fulfilled in practice.

User Scenario 1: Data Collection by System Administrator

Persona: Data Administrator

Goal: Ensure stock market data for all issuers is up-to-date and complete.

Scenario: The Data Administrator is responsible for making sure the system has the most recent stock market data for all issuers listed on the Macedonian Stock Exchange. They initiate the data collection process, which automatically checks for missing data, downloads it if necessary, and stores it in the system.

Steps:

The Data Administrator triggers the data update process.

The system automatically retrieves a list of issuers from the Macedonian Stock Exchange website.

The system checks the existing database to identify which issuers have missing or outdated data.

If data is missing, the system fetches the missing stock data, starting from the last available date to the present (or from the last 10 years if no data exists).

After processing the data, the system stores it in a structured format (the database) without duplication and ensures all dates and prices are properly formatted.

A performance report is displayed to show how long the data collection process took.

Requirement Fulfilled:

FR1 (Data Retrieval), FR2 (Check Existing Data), FR3 (Download Missing Data), FR5 (Data Storage) and NFR1 (Performance)

User Scenario 2: Financial Analyst Analyzing Stock Data

Persona: Financial Analyst

Goal: Analyze the historical stock performance of a specific issuer.

Scenario: A Financial Analyst needs to assess the performance of a particular stock over the past decade. They query the system for historical stock data, which is stored in the database. The analyst uses this data to generate reports or make investment decisions.

Steps:

The Financial Analyst accesses the system through the user interface (if available).

The analyst selects an issuer from a dropdown list of companies.

The system retrieves and displays the stock data in a table or chart, showing the stock's performance over time (e.g., price changes, volume).

The analyst can filter, sort, or visualize the data to identify trends or make decisions.

If needed, the analyst can export the data for further analysis or reporting.

Requirement Fulfilled:

FR4 (Data Transformation and Formatting), FR7 (User Query Interface), NFR4 (Data Integrity)

User Scenario 3: System Handling Missing Data

Persona: System (Automated Process)

Goal: Automatically detect and fill in missing stock data for issuers.

Scenario: The system regularly checks missing stock data for any issuer and automatically fetches any missing data. This ensures that the database is always up to date with the latest available information, and there are no gaps in the historical records.

Steps:

The system checks the last available date of data for each issuer in the database.

If an issuer is missing data for any date range, the system retrieves the missing data starting from the last recorded date to the present.

The system automatically formats the data and stores it in the database, merging it with the existing data for that issuer.

Requirement Fulfilled:

FR2 (Check Existing Data), FR3 (Download Missing Data), NFR3 (Reliability)