Project Description

This project aims to implement a database-based web application designed to extract and filter data from the Macedonian Stock Exchange website for conducting stock market analysis. The primary goal of this application is to provide users easy and convenient access to historical daily stock market data spanning the past 10 years. The first phase of development involves automating the download process and filtering the data for each issuer. The data is scraped using "Beautiful Soup", and then processed following the Pipe-and-Filter architecture to ensure only necessary data is retained, formatted correctly and subsequently stored in our own database.

Functional Requirements

UR1: The system shall store the following data for each issuer, for a given date:

UR1.1: Last trade price

UR1.2: Maximum price and minimum price

UR1.3: Average price

UR1.4: Percentage difference in a value

UR1.5: Volume (number of shares)

UR1.6: Turnover in BEST denars

UR1.7: Total turnover in denars

UR2: The system shall allow the user to select an issuer from a list of available options for which data is stored in the database.

UR3: The system shall allow the user to retrieve data of a selected issuer for any date within 10 years of the search date.

Non-Functional Requirements

UR1. Usability: The system shall provide an intuitive user-friendly interface, in order to promote to a diverse user base.

UR1.1. The system shall provide both Macedonian and English language support, ensuring language accessibility.

UR2. Performance: The system shall be optimized to load quickly in order to maintain user retention.

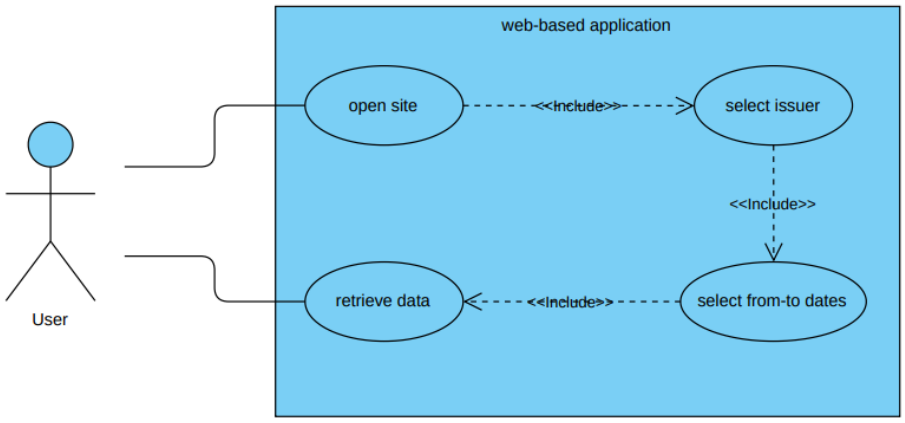
UR3. Maintainability: The system shall follow standard coding practices, and possess thorough documentation to guarantee ease of maintenance.

UR4. Reliability: The system shall maintain at least 99% availability per week.

UR5: Scalability: The system shall allow the addition of new issuers, allowing the database to store historical data spanning up to 10 years per issuer.

UR6: Compatibility: The system shall be compatible with any web browser, on both desktop and mobile devices.

User Scenario



User Persona

Example Persona
Aleksandar, 41, university professor He often checks stock market changes, deciding whether to buy, sell, or keep his investments. He analyses historical data so that he can make smarter investment decisions. Aleksandar is a busy individual, who likes to have the quickest and easiest access to the information he needs. To browse, he uses a laptop equipped with the latest version of the Microsoft Edge browser.