



Group No. 30

Project Name: Stock Prediction

Software Requirments Specifications (SRS)

(Not Implemented)

1. Requirements

1.1 Functional Requirements

Investment Calculators: The feature offers to estimate returns, compound interest, tax implications, and other financial computations to assist users in planning their investments.

Comparative Analysis: Enable users to compare multiple stocks or portfolios side by side, allowing for better decision-making based on comparative data.

News and Sentiment Analysis: Analyze news sentiment and social media mentions for stocks. Aggregate news articles, social media data, and sentiment analysis tools to determine sentiment around specific stocks and display this information to users.

1.2 Non-Functional Requirements

Localization: To serve a global audience, the system must handle multiple languages, time zones and currencies.

- **Justification:** To make users more accustomed to the system and to make them feel less alienated, adding localization would be a

great tool. It reduced ambiguity and less confusion. It makes interaction for the user very easy and reduces the learning curve.

Performance Monitoring and Reporting: Implement tools to monitor system performance and generate reports on system uptime, response times, and user activity.

- **Justification:** By tracking system uptime, response times, and user activity, these tools provide insights into the website's reliability, responsiveness, and user engagement. This data enables proactive identification of issues, optimization of performance, and informed decision-making for enhancing user experience and overall system efficiency.

2. Use Case

2.1 Investment Calculators

Actor: User

Goal: Calculate potential returns, compound interest, tax implications, and other financial metrics to aid in investment planning.

Precondition:

- User must be logged in.
- The user has access to the investment calculator tool within the stock price and analysis page.

Description:

1. The user navigates to the "Investment Calculators" section of the website within the stock price and analysis page..
2. The user selects the type of calculation they want to perform (e.g., return estimation, compound interest calculation, tax implications).
3. The user inputs relevant parameters such as initial investment amount, expected rate of return, investment duration, tax rates, and any other required variables.
4. The system processes the input and performs the specified calculation.
5. The calculated results are displayed to the user, providing insights into estimated returns, compounded interest, tax obligations, or other financial metrics based on the provided inputs.

Exception:

1. If the user enters invalid or incomplete data, the system prompts the user to input the required information correctly.
2. In case of technical issues or system errors, the system displays an error message and advises the user to try again later.

Postcondition:

- The user receives accurate calculations and insights regarding potential returns, compound interest, tax implications, or other financial metrics, aiding in their investment planning decisions.

2.2 News and Sentiment Analysis

Actor: User

Goal: To access sentiment analysis and aggregated news/social media data for specific stocks to make informed investment decisions.

Precondition:

- User must be logged in.
- Stock details available for analysis.

Description:

1. The user provides the stock symbol or name they wish to analyze for news sentiment.
2. The system gathers news articles, social media mentions, and relevant data related to the specified stock.
3. Employ sentiment analysis tools to evaluate the sentiment (positive, negative, neutral) surrounding the stock based on the aggregated data.
4. Display the sentiment analysis results and aggregated information (news snippets, social media mentions) related to the stock on the user interface.
5. Allow the user to interact with the displayed information, possibly by clicking on news articles or social media mentions for more details.

Exception:

1. If there's a failure in data aggregation or sentiment analysis, display an error message and prompt the user to try again later.
2. In case of insufficient data for sentiment analysis, indicate the limitations and present available information to the user.

Postcondition:

- The user is presented with sentiment analysis results and aggregated news/social media data for the specified stock.
- The user can utilize this information for investment decisions or further analysis.