



Stocktrack.io

INTRODUCTION

The program is a stock monitoring and news aggregation application. Its main aim is to provide users with real-time stock data and relevant news articles related to their chosen stocks. The objectives of the project include:

1. Fetching and displaying stock data for selected companies.
2. Retrieving and presenting news articles related to the selected companies.
3. Notifying users if there is a significant percentage difference in stock prices.
4. Allowing users to customize their stock portfolio by adding or removing stocks.
5. Providing user authentication and account management functionality.

ROADMAP OF THE REPORT

The report will cover the following sections:

1. Introduction: Provides an overview of the project's aims and objectives, as well as the structure of the report.
2. Background: Explains the specific details of the project, including the rules and logic behind the stock monitoring and news aggregation system.
3. Specifications and Design: Describes the technical and non-technical requirements of the program and outlines the design and architecture of the system.
4. Implementation and Execution: Discusses the development approach, team member roles, and the tools and libraries used in the implementation process. It also covers any achievements, challenges, or decisions made during development, including the use of agile elements.
5. Testing and Evaluation: Outlines the testing strategy employed, including functional and user testing. It also highlights any limitations or constraints of the system.

BACKGROUND

The program is designed to provide users with real-time stock data and news articles related to their selected stocks. It fetches stock data using the Alpha Vantage API, which provides information such as daily adjusted stock prices. The program also utilizes the News API to retrieve news articles related to the selected stocks.

SPECIFICATIONS AND DESIGN

The technical requirements of the program include integrating with the Alpha Vantage API and the News API to fetch stock data and news articles, respectively. The program also requires a database to store user information and stock preferences. Non-technical requirements involve providing a user-friendly interface for stock selection, news display, and account management.

The design and architecture of the program involve using the Flask framework to build a web application. The program follows a client-server architecture, where the server-side is responsible for handling requests, fetching data, and rendering HTML templates. The client-side presents the user interface and interacts with the server using HTTP requests.

IMPLEMENTATION AND EXECUTION

The development approach used for this project follows an agile methodology. The development team consisted of multiple members, each assigned specific roles and responsibilities. The program utilizes various tools and libraries, including Flask, SQLAlchemy, Flask-Login, and SendGrid.

During the implementation process, the team achieved the integration with the Alpha Vantage API and the News API, allowing the retrieval of stock data and news articles. However, they also encountered challenges, such as handling invalid user input and ensuring data accuracy. The team made decisions to enforce constraints on stock selection and implemented features for user authentication and account management.

TESTING AND EVALUATION

The testing strategy for the program includes both functional and user testing. Functional testing ensures that the program behaves as expected, with features such as stock data retrieval, news aggregation, and user account management functioning correctly. User testing involves verifying the usability and user-friendliness of the application by gathering feedback from end-users.

The program has certain limitations, such as relying on external APIs for data retrieval, which may introduce dependency and reliability concerns. Additionally, the program may not handle all possible edge cases or errors gracefully. These limitations should be taken into account when evaluating the system's performance and suitability for specific use cases. Overall, the program provides a platform for users to monitor their stock portfolio, stay informed about relevant news articles, and manage their account settings.