STOCK MARKET APP

Software Requirements Specification

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1. **INTRODUCTION**

## 1.1 Purpose

A share market app's Software Requirements Specification (SRS) serves the function of giving an overview of the features, functionalities, and limitations of the software. It acts as a guide for the development team, making sure that everyone is aware of the objectives and project parameters.

The intended audience for the SRS includes:

1. Development Team: Developers, designers, testers, and other technical staff who will be involved in building the app. They need clear instructions on what features to implement and how they should behave.
2. Future Developers and Maintainers: As the app evolves over time, new developers may need to reference the SRS to understand its original design and functionality. Likewise, maintenance teams use the SRS to diagnose issues and make updates.

## Scope

Name of the Software Product: Stock Market App

1. Functionality: Display stock prices and market trends will be provided by the stock market app.   
   Permit users to track particular stocks with customised watchlists.   
   Allow stock purchases and sales from within the app for users.   
   Provide financial news and analysis to users so they can choose wisely when making investments.   
   Give portfolio management tools, such as the ability to track and visualize performance.
2. Application: Advantages, Goals, and Objectives:   
   Give users the tools they need to stay up to date on stock market news and make wise investment choices.   
   Enable simple and practical stock trading straight from a mobile device.   
   Give users the tools they need to successfully manage their investment portfolios and monitor their progress over time.
3. Range:   
   The Stock Market App's functionality encompasses all the features and tools required for users to transact, manage their portfolios, obtain stock market data, and keep up with financial news.   
   The application seeks to offer an intuitive user interface that accommodates both inexperienced and seasoned investors.   
   It will facilitate access to a broad variety of financial instruments, such as stocks, ETFs, and indexes, and support numerous stock exchanges.

## 1.3 Definitions, Acronyms, and Abbreviations

Summary of SRS Contents: The remaining sections of the Software Requirements Specification (SRS) provide comprehensive details regarding the specifications, and features of the Stock Market App.

These sections could consist of:   
Functional Requirements: Describe the particular features and functions of the application.   
System Interfaces: Describes how components or systems from outside the system interact.   
User Interfaces: Describe the user interfaces that the application uses to communicate with its users.   
Glossary: Defining important words and ideas that are used in the text.   
Every section has a logical layout with distinct headings, subheadings, and numbered sections for convenient access

**2. General Description**

The General Description section of the Software Requirements Specification (SRS) provides an view of the Stock Market App and the broader context within which it operates. While it does not list specific requirements, it elucidates the factors that influence the product and its requirements, aiming to enhance comprehension and clarity.

Product Perspective:

The Stock Market App operates within a dynamic and rapidly changing financial landscape, influenced by global economic conditions, market trends, and regulatory environments.

It interfaces with various external systems, including stock exchanges, financial data providers, payment gateways, and user devices

The app may integrate with third-party services for features like news aggregation, analytics, and social trading, enhancing its functionality and value proposition.

Product Functions:

The primary function of the Stock Market App is to provide users with access to real-time stock market data, facilitate trading activities, and assist in portfolio management.

It offers features such as stock price tracking, watchlists, trade execution, analysis tools, and portfolio performance monitoring.

User Characteristics:

The Stock Market App caters to a diverse user base ranging from individual investors to professional traders and financial advisors.

Users may have varying levels of experience and expertise in financial markets, with different preferences regarding investment strategies, risk tolerance, and technological proficiency.

The app should accommodate users across different demographics, geographical locations, and time zones, ensuring accessibility and inclusivity.

Constraints:

The development of the Stock Market App is subject to various constraints, including time, budget, technology limitations, and regulatory compliance requirements.

It must adhere to industry standards and best practices regarding data security, privacy protection, financial regulations, and user authentication.

The app should strive for optimal performance, scalability, and reliability to accommodate growing user demands and market volatility.

Assumptions and Dependencies:

That all users understand the basic usage of stock market and its functions as well as basic English

Subsection: Product Perspective (2.1)

The Stock Market App exists within the context of the financial services industry, alongside other related products and projects. While it may share similarities with trading platforms, investment management software, and financial data providers, it distinguishes itself through its focus on real-time market data, user-friendly interface, and comprehensive features for both novice and experienced investors.

Subsection: Product Functions (2.2)

The Stock Market App will perform the following key functions:

1. Provide real-time updates on stock prices, indices, and market trends.
2. Facilitate the creation and management of personalized watchlists for tracking specific stocks or sectors.
3. Enable users to execute buy and sell orders for stocks, ETFs, and other financial instruments.
4. Offer financial news articles, analysis, and market insights to support informed decision-making.
5. Provide portfolio management tools, including performance tracking, asset allocation analysis, and dividend tracking.
6. Support user authentication, account management, and security features to safeguard sensitive information.

Subsection: User Characteristics (2.3)

The eventual users of the Stock Market App encompass a diverse range of individuals, including:

1. Individual investors seeking to manage their own portfolios and make informed investment decisions.
2. Professional traders and financial advisors requiring real-time market data and analysis tools for their clients.
3. Novice investors looking for educational resources, guidance, and support to navigate the complexities of the stock market.
4. Institutional investors and fund managers seeking advanced portfolio management solutions and customizable reporting capabilities.

Subsection: General Constraints (2.4)

General constraints affecting the design and development of the Stock Market App include:

1. Compliance with financial regulations and industry standards regarding data privacy, security, and transparency.
2. Availability of reliable internet connectivity and compatibility with various devices and operating systems.
3. Scalability to accommodate increasing user demand, market volatility, and data processing requirements.
4. Resource constraints such as budget limitations, time constraints, and technological capabilities.

Subsection: Assumptions and Dependencies (2.5)

Assumptions and dependencies affecting the requirements stated in the SRS include:

1. Availability of real-time market data feeds from trusted sources for accurate pricing and information.
2. Compatibility with existing hardware and software infrastructure, including servers, databases, and communication protocols.
3. Adherence to regulatory changes and updates related to financial markets, data privacy, and security standards.

Section: Specific Requirements (3)

The Specific Requirements section of the SRS will outline detailed customer requirements (D-requirements) that guide the project's software design, implementation, and testing. It will encompass functional requirements, non-functional requirements, system interfaces, user interfaces, use cases, data management, and other relevant aspects necessary for the development of the Stock Market App.

**Section 3: Specific Requirements**

3.1 External Interface Requirements

3.1.1 User Interfaces

The user interface of the Stock Market App should be intuitive and visually appealing, facilitating easy navigation and interaction for users.

It should support mobile platforms (iOS and Android) ensuring consistent user experience across different devices.

The interface should include features such as stock price charts, news feeds, watchlists, trading tools, and portfolio summaries.

Accessibility standards should be followed to accommodate users with disabilities, including support for screen readers, keyboard navigation, and alternative text for images.

3.1.2 Hardware Interfaces

The Stock Market App will interface with standard hardware components such as smartphones, tablets.

It should be optimized to run efficiently on various hardware configurations, including devices with different screen sizes, resolutions, and processing power.

3.1.3 Software Interfaces

The app will integrate with external software systems for real-time market data feeds, financial news updates, and trade execution.

3.1.4 Communications Interfaces

Secure communication protocols (e.g., HTTPS) will be used for transmitting sensitive data between the client and server.

Push notifications, email alerts, and in-app messaging will be utilized to notify users of important events, price changes, and account updates.

Real-time chat or customer support features may be integrated to facilitate communication between users and support staff.

3.2 Functional Requirements

3.2.1 User Authentication

3.2.1.1 Introduction

Users should be able to securely authenticate themselves to access the Stock Market App and their account information.

3.2.1.2 Inputs

User credentials (username/email and password).

3.2.1.3 Processing

Validate user credentials against stored authentication data.

Implement secure authentication mechanisms such as password hashing and session management.

3.2.1.4 Outputs

Grant access to authenticated users, allowing them to use app features and access account information.

3.2.2.1 Introduction

Users should be able to view real-time stock prices for selected securities.

3.2.2.2 Inputs

Selected stock symbols or tickers.

3.2.2.3 Processing

Retrieve current stock prices from external data providers.

Update displayed prices at regular intervals.

3.2.2.4 Outputs

Displayed stock prices on the user interface.

3.5.1 Performance

95% of stock price updates shall be processed and displayed within 1 second.

Trade execution latency shall not exceed 3 seconds.

3.5.2 Reliability

The app shall maintain 99.9% uptime, excluding scheduled maintenance windows.

Critical functionalities such as trade execution and portfolio updates shall have a Mean Time Between Failures (MTBF) of at least 30 days.

3.5.3 Availability

The app shall be available 24/7, with redundant servers and failover mechanisms to ensure uninterrupted service.

3.5.4 Security

User authentication shall utilize industry-standard encryption protocols (e.g., OAuth, JWT) to protect account credentials and personal information.

Financial transactions shall be secured using SSL/TLS encryption and multi-factor authentication (if supported by the brokerage).

3.5.5 Maintainability

The app shall adhere to modular design principles, allowing for easy maintenance, updates, and scalability.

3.5.6 Portability

The app shall be compatible with major web browsers (Chrome, Firefox, Safari) and mobile platforms (iOS, Android) without significant modifications.

Responsive design techniques shall ensure optimal usability across devices with varying screen sizes and resolutions.

3.7 Design Constraints

The design of the Stock Market App must comply with relevant financial regulations and industry standards, including data privacy laws (e.g., GDPR, CCPA) and securities regulations (e.g., SEC, FINRA).

The app's architecture and technology stack must align with company policies and development guidelines, incorporating approved frameworks, libraries, and tools.

3.9 Other Requirements

Integration with social media platforms for sharing market insights and investment strategies.

Support for multiple languages and international markets to cater to a diverse user base.

Implementation of analytics and reporting features for tracking user engagement, app usage, and performance metrics.

**4. Github**

https://github.com/PrasathVedha/Stock-market