

Secure Stock Exchange System using Web Services

1. Introduction

This project implements a stock exchange is simply a system that is designed for the sale and purchase of securities of corporations and municipalities. A stock exchange sells and buys stocks, shares, and other such securities. In addition, the stock exchange sometimes buys and sells certificates representing commodities of trade.

1.1 Purpose

The purpose of the Secure Stock Exchange System using Web Services is to automate the stock exchange works, and can help user make the decisions when it comes to investment.

1.2 Scope

The scope of the Secure Stock Exchange System using Web Services contains following:

- Stock Markets & Investments
- Stock Options
- Related Information

The entire project has been developed keeping in view of the distributed client server computing technology, in mind. The specification has been normalized up to 3NF to eliminate all the anomalies that may arise due to the database transaction that are executed by the general users and the organizational administration. The user interfaces are browser specific to give distributed accessibility for the overall system. The internal database has been selected as

Oracle 8i. The basic constructs of table spaces, clusters and indexes have been exploited to provide higher consistency and reliability for the data storage. The Oracle 8i was a choice as it provides the constructs of high-level reliability and security. The total front end was dominated using the Java J2EE technologies. At all proper levels high care was taken to check that the system manages the data consistency with proper business rules or validations. The database connectivity was planned using the latest "JDBC Connection" technology provided by Microsoft Corporation. The authentication and authorization was crosschecked at all the relevant stages. The user level accessibility has been restricted into two zones namely. The administrative zone and the normal user zone.

1.3 Definitions, Acronyms and Abbreviations

- Stock Markets & Investments contains following operations:
 - Stock Exchange Listing
 - Stock Options & Analysis
 - Stock Market Crash
 - Selling Stock Certificates
 - Stock Market Forecasts

- Stock Options contains following operations:
 - Types of Stocks
 - Stock Option Valuation
 - Restricted Stock Options

- Related Information means:
 - Day Trading Stocks
 - Stock Quotes & Stock Ticker
 - Stock Charts
 - Share Portfolio Management

1.4 References

- (1) Java Complete Reference By Herbert Shield
- (2) Database Programming with JDBC and Java By George Reese
- (3) Java and XML By Brett McLaughlin
- (4) Wikipedia, URL: <http://www.wikipedia.org>.
- (5) Answers.com, Online Dictionary, Encyclopedia and much more, URL: <http://www.answers.com>
- (6) Google, URL: <http://www.google.co.in>

1.5 Technologies to be used

- ✓ HTML, CSS (Web Presentation)
- ✓ JavaScript (Client-side Scripting)
- ✓ Java (as programming language)
- ✓ JDBC, JNDI, Servlets, JSP (for creating web applications)
- ✓ Eclipse with MyEclipse Plug-in (IDE/Workbench)
- ✓ Oracle/SQL Server/Access (database)
- ✓ Windows XP/2003 or Linux/Solaris (Operating System)
- ✓ BEA WebLogic/JBoss/WebSphere (Server Deployment)

1.6 Overview

Overall description consist of background of all the specific requirement.It also gives explanation about actor and function which is used.It gives explanation about architecture diagram and it also gives what we are assumed and dependencies.It also support specific requirement and also it support functional requirement,supplementary requirement other than actor which is used.It also gives index and appendieces.It also gives explanation about any doubt and quaries.

2. Overall Description

Secure Stock Exchange system is simply a system that is designed for the sale and purchase of securities of corporations and municipalities. A stock exchange sells and buys stocks, shares, and other such securities. In addition, the stock exchange sometimes buys and sells certificates representing commodities of trade.

At first, stock exchanges were completely open. Anyone who wished to buy or sell could do so at a stock exchange. However, to make stock exchange more effective, membership became limited to those in clubs and other associations. Today, professionals who have a seat at the exchange are the people who trade at the exchange.

Stock markets affect the entire economy and encourage investment. In the United States, larger cities including Boston, New York, Philadelphia, Denver, Chicago, Los Angeles, and San Francisco all have stock exchanges. Major cities across the world also have exchanges of their own.

Not all stocks are listed on exchanges. Some are sold on the so-called over-the-counter market, which means that they are sold and bought directly by brokers. This method of buying became especially important during the early 1980s. Today, online stock exchange is even more prevalent. Thanks to the growth of the Internet almost anyone can sell and buy stocks online. Investors simply tell their banks or investment brokers online what they wish to trade and when and the brokers hired by the online trading system buy or sell stocks for the client electronically.

The buying and selling of stocks at the exchange is done on an area which is called the floor. All over the floor are positions which are called posts. Each post has the names of the stocks traded at that specific post. If a broker wants to buy shares of

a specific company they will go to the section of the post that has that stock. If the broker sees at the price of the stock is not quite what the broker is authorized to pay, a professional called the specialist may receive an order. The specialist will often act as a go-between between the seller and buyer. What the specialist does is to enter the information from the broker into a book. If the stock reaches the required price, the specialist will sell or buy the stock according to the orders given to them by the broker. The transaction is then reported to the investor.

If a broker approaches a post and sees that the price of the stock is what they are authorized to pay, the broker can complete the transaction themselves. As soon as a transaction occurs, the broker makes a memorandum and reports it to the brokerage office by telephone instantly. At the post, an exchange employee jots down on a special card the details of the transaction including the stock symbol, the number of shares, and the price of the stocks. The employee then puts the card into an optical reader. The reader puts this information into a computer and transmits the information of the buy or sell of the stock to the market. This means that information about the transaction is added to the stock market and the transaction is counted on the many stock market tickers and information display devices that investors rely on all over the world. Today, markets are instantly linked by the Internet, allowing for faster exchange.

2.1 Current System

The current system contains all the details of the stock exchange are maintained in the individual databases. If user want the information they must keep a request to the admin authority and get the information. It's a time delay process. And maintaining all the records in Excel sheets. If they want any record they has to search all the records.

The whole process is now manually controlled. This requires maintaining the records of the queries coming from the employees in the paper.

2.2 Proposed System

- The system at any point of time can provide the informations of the stock market.
- The system at any point of time can provide the details of present stock market information.
- The system at any point of time can provide the details of specific user details and their investments.
- The system at any point of time can provide the details of existing charge sheets and their status.

2.3 Assumptions and Dependencies

The assumptions in the project are to be considered for checking the feasibility of our project.

It can up- and download forms

User can register to access data from the sytem

User can see stock markets and investiments

It can allow stock options

It will generate charts for present market rates.

3. Specific Requirements

The specific requirement gives the expected behaviour of the System

Following are the requirements of the System:

3.1 Implementation

The use case report contains the non-functional requirements

The project non functional requirements include the following.

- Updating Work status.
- Problem resolution.
- Error occurrence in the system.
- Customer requests.

3.2 Functional Requirements

- User interface for the administrator.
- Web based interface for the customers to retrieve information.
- Handling Validations.
- Tracing the updates in market.

3.3 Modules

The following are the modules implemented in this Secure Stock Exchange System using Webservices:

1. **Securities:** The securities view provides a list of all available securities. From here you can open charts and news headers specific to each security, and drag a security to populate other views.

2. **Watch List:** The watchlist view allows you to keep track of the price trend of the securities. The watchlist wizard allows you to define the name of the watchlist and the columns to display. To add the securities to a watchlist drag a security from the securities view and drop it to the watchlist. The security will be added at the end of list.

3. **Charts:** Chart views provides a graphical representation of the historical prices for a given security. The view's pull-down menu to add indicators and drawing objects to the chart that helps you to perform the technical analysis of the price trends. Indicators can be added over existing indicators, on a new tab in the same row with other indicators or alone in a row.

4. **News:** The news view provides a list of news headers. The news can then be readed using the integrated web browser. User can open multiple news views that shows either all the available headers or the headers related to a single security.

5. **Patterns :** From the Watchlist or Securities views you can search each security for a pattern in the price history. The patterns search view provides a list of all performed search results.

6. **Accounts:** The accounts view provides a list of trading accounts and keep track of your owned assets. All accounts are transaction-based.

7. **Portfolio:** The portfolio view provides a list of all open positions for the available trading accounts.

8. **Trading:** The trading feature allows you to submit orders to a broker using:

- ✓ Account
- ✓ Security
- ✓ Provider
- ✓ Order

And keep track of the submitted orders and their status using the orders view.