

Stock Exchange Application

Database Project Report

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IIT BOMBAY

INTRODUCTION

Stock exchange is an organized market for buying and selling corporate and other securities. Our application will provide a convenient and secured mechanism or platform for transactions in different securities. Such securities include shares and debentures issued by public companies which are duly listed at the stock exchange and bonds and foreign exchange.

AIM OF THE PROJECT

The basic aim of the project is to gain practical knowledge and learn principles involved in a database-based software by design and implementation of a web-based software system for virtual stock trading. The software provides all basic facilities for a user in stock market, while also touching some advanced features of a Stock Market Application.

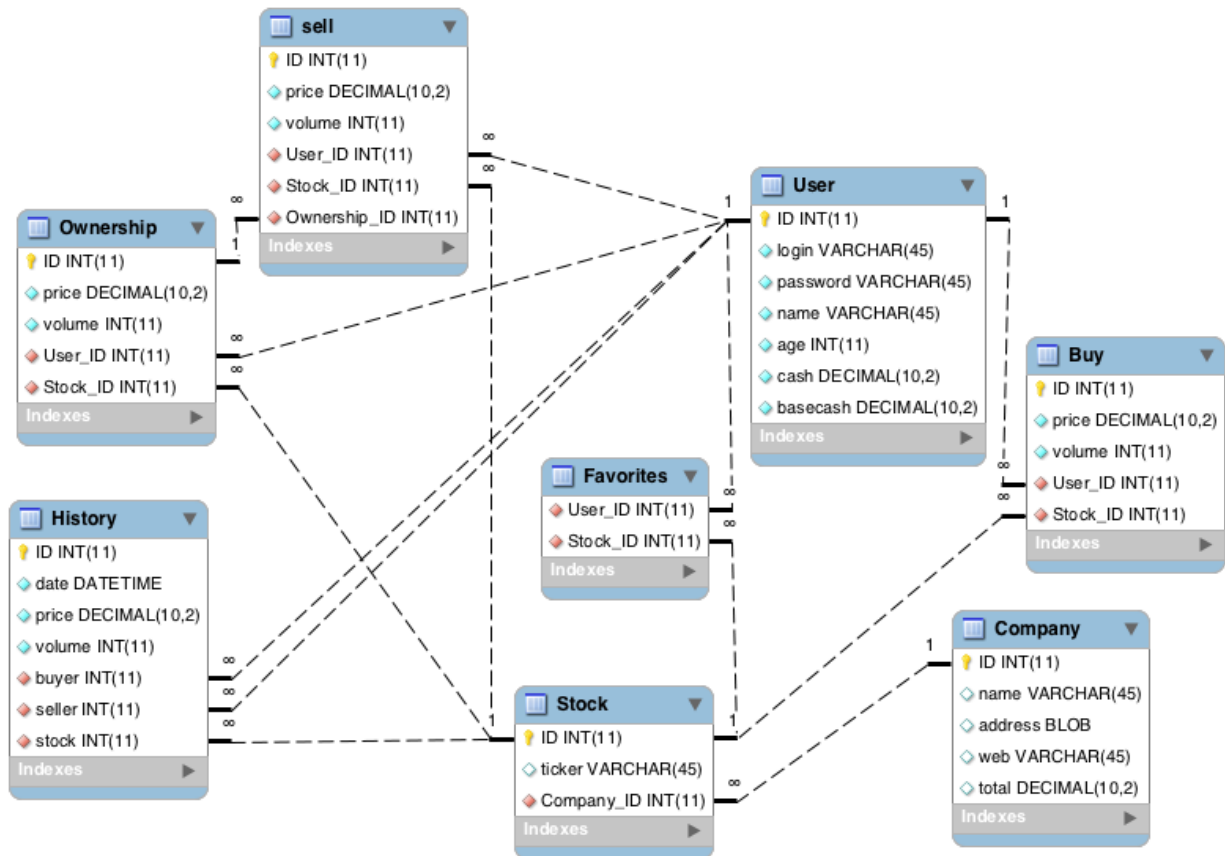
The project involves complete structuring of our application, demarcating various modules required and fitting in various features to be provided. Starting with development of ER Model in order to develop the schema for the complete stock exchange database to making the actual Java-based Web application as well CSS-based user-graphics, this project introduces us to all the steps involved in making a database-based Web Application.

PRINCIPLES

In a stock market, there are two major entities, company and customer. Companies float stocks in the market in order to get money for their investments and expand their company in long run. The customers primarily buy & sell stocks to gain profits.

The main distinction of stock trading with any usual buy-sell applications like Flipkart, is that selling prices aren't fixed at any given point in time, but rather depends upon what buyers and sellers are willing to offer. Trading prices can be obtained by matching the buying and selling orders, each with their target price, as in the real stock market. This is the major challenge in implementation of a stock exchange application.

DATABASE DESIGN



Company: this table stores the company data - name, address, website, total of stocks that the company has, may be types of stocks

Stock: this table stores the information about each stock. Ticker is basically short notation of Stock.

User: this table stores the user data - login, password, name, address, age, the cash that the user has, his portfolio etc.

Ownership: links User with Stock - contains the stocks that each user has

Sell: links User with Stock - contains the stocks that the user wants to sell

Buy: links User with Stock - contains the stocks that the user wants to buy

History: this table links User with Stock - contains the transactions done in the trade market, it has the information about the buyer, seller, stocks sold, price, date, etc. Most features in the application is based on this table.

Favorites: contains favorite stocks of each user.

INTERFACE & FEATURES

User Registration: New users can register into the application to make their own account.

User Login: Users login to their account when the password is verified

Company Registrarion: Company can register into the application in order to float stocks into the market.

Company Login: Similar to user login. Companies are basically users that can also buy and sell other stocks.

User Interface

The system records the history of stock prices and provides graphical tools to present this data.

Users can place orders for buying and selling stocks. They can also view and cancel their orders, browse and search through the stocks, view their graphs, make and view their favorites.

Users can also view their personal information, portfolio, stocks, transaction history and their current orders to buy and sell and the prices of the stocks.

The interface also provides complete history of user transactions, his total cash and net worth including ownership of stocks.

Interfaces

- **Main Screen**

- Option to Register a User
- Option to Login as User
- Option to Register a Company
- Option to Login as Company
- Details of Stocks and Companies

- **Ticker Screen**

- Details of a Stock
- Statistics, History, Graphs of a Stock
- Links for redirection to Welcome Screen/Register Screen /Login Screen

- **Registration Screen**

- Option to Register a User
- Option to Register a Company
- Details for Registration

- **Login Screen**

- Login as User
- Login as Company

- **Personal Details Screen**

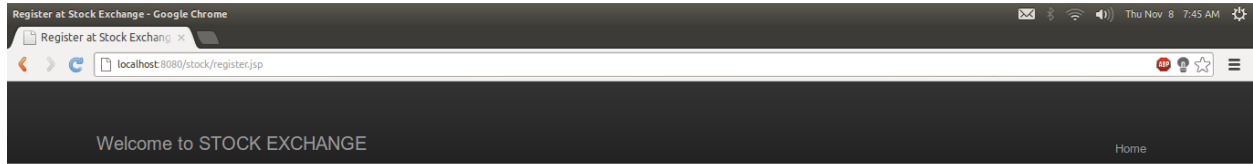
- Personal Details of User/Company
- Options to edit the details
- Transactions History
- Orders History

- **Sell Screen**
Screen where user can sell stocks
- **Buy Screen**
Screen where user can buy stocks

Modules

- **Registration Module**
 - Company**
 - Adding the details of company to company table
 - Also Adding the details of Company's Stock to Stock table
 - User**
 - Adding the details of user to user table
- **Login Module**
 - Company**
 - Verifying company's credential using company table
 - User**
 - Verifying user's credential using user table
- **Buying/Selling a Stock**
 - Updating Ownership table with current owner
 - Inserting a record in Buy Table
 - Inserting a record in History Table
- **Module to Modify Personal Details**
- **jsp files corresponding to all above modules**

SCREENSHOTS



If you are a company, Register [here](#) .

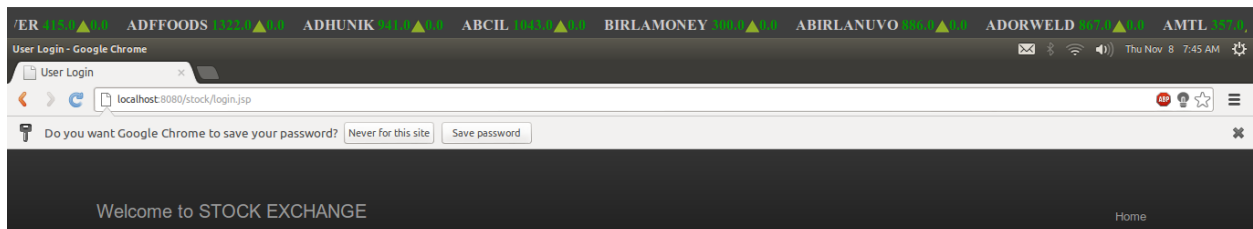
Username :

Password :

Name :

Age :

Base Cash :



Username :

Password :

20MICRONS	100.0	▲	100.0	3INFOTECH	100.0	▲	100.0	3MINDIA	100.0	▲	100.0	A2ZMES	100.0	▲	100.0	AANJANEYA	100.0	▲	100.0	AARTIDRUGS	100.0	▲	100.0	AARTIIND	100.0	▲	100.0
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Hello PRATIK PRABHANJAN KUMAR

Home Orders Favorites Tickers History Buy Profile Logout

Top Gainers Top Losers

- 20MICRONS
- AANJANEYA
- RAJPALAYAM
- INDOSOLAR
- ASAL

Most Active

- 20MICRONS
- ABB
- ABGSHIP
- ZYLOG
- ACCELYA

		Previous	1 of 1	Next
Ticker	Company	Quantity	Price	
ACCELYA	Accelya Kale Solutions Limited	100	300.0	Sell
ACCELYA	Accelya Kale Solutions Limited	50	300.0	Sell
AANJANEYA	Aanjaneya Lifecare Limited	100	100.0	Sell

20MICRONS 100.0▲0.0 3IINFOTECH 100.0▲0.0 3MINDIA 100.0▲0.0

Sell ACCELYA

Home Orders Favorites Tickers History Buy Profile Logout

Ticker : ACCELYA

Price : 400

Volume : 4

Sell

100.0 AARTIDRUGS 115.0▲0.0 AARTIIND 175.0▲0.0 AARVEEDEN 100.0▲0.0 ABAN 100.0▼87.745094 ABB 100.0▲0.0 ABBOTINDIA 100.0▲0.0 ABGSHIP 100.0▲0.0 AI

Stock Updates - Google Chrome

Stock Updates

localhost:8080/stock/favorites.jsp?page=0&add=0

Hello PRATIK PRABHANJAN KUMAR

HomeOrdersFavoritesTickersHistoryBuyProfileLogout

Top Gainers

- 20MICRONS
- AANJANEYA
- RAJPALAYAM
- SONATSFTW
- LAOPALA

Most Active

- 20MICRONS
- ABB
- ABGSHIP
- ZYLOG
- ACCELYA

Company	Ticker	Price	Volume	Last Price	Change	% Change	Date	
20 Microns Limited	20MICRONS	400.0	100	200.0	200.0	100.0	2012-12-04 11:11:11.0	Remove from Favorites
3I Infotech Limited	3IINFOTECH	1365.0	1000	0.0	0.0	0.0	2012-09-02 11:59:59.0	Remove from Favorites
3M India Limited	3MINDIA	1263.0	1000	0.0	0.0	0.0	2012-09-02 11:59:59.0	Remove from Favorites
A2Z Maintenance & Engineering Services Limite	A2ZMES	500.0	100	500.0	0.0	0.0	2012-11-05 08:13:46.0	Remove from Favorites
ABB Limited	ABB	300.0	10	300.0	0.0	0.0	2012-11-08 07:28:08.0	Remove from Favorites

Previous1 of 308Next

Ticker	Company	
AARVEEDEN	Aarvee Denims & Exports Limited	Add to Favorites
ABAN	Aban Offshore Limited	Add to Favorites

20MICRONS▲▲▲▲▲▲▲▲▲▲3IINFOTECH▲▲▲▲▲▲▲▲▲▲3MINDIA▲▲▲▲▲▲▲▲▲▲A2ZMES▲▲▲▲▲▲▲▲▲▲AANJANEYA▲▲▲▲▲▲▲▲▲▲AARTIDRUGS▲▲▲▲▲▲▲▲▲▲AARTIIND▲▲▲▲▲▲▲▲▲▲

Hostel Affairs(HA) - Google Chrome

Welcome to Stock ExchangeHostel Affairs(HA)

localhost:8080/stock/registercompany.jsp

Welcome to STOCK EXCHANGEHome

Company Name :CocaCola

Webpage :coke.in

Stock Details

Ticker

CO101

CO102

registerCompany

Volume

200

100

Price

1350

2000

-

-

ABAN▲▲▲▲▲▲▲▲▲▲ABB▲▲▲▲▲▲▲▲▲▲ABBOTINDIA▲▲▲▲▲▲▲▲▲▲ABGSHIP▲▲▲▲▲▲▲▲▲▲ABHISHEK▲▲▲▲▲▲▲▲▲▲ACC▲▲▲▲▲▲▲▲▲▲AFL▲▲▲▲▲▲▲▲▲▲ACCELYA▲▲▲▲▲▲▲▲▲▲

Welcome to Stock Exchange! - Google Chrome

Welcome to Stock Exchange! X

localhost:8080/stock/welcome.jsp?page=0

Thu Nov 8 7:44 AM

Welcome to STOCK EXCHANGE

LoginRegister

Refresh

Previous1 of 2Next

Company	Ticker	Price	Volume	Last Price	Change	% Change	Date
20 Microns Limited	20MICRONS	400.0	100	200.0	200.0	100.0	2012-12-04 11:11:11.0
A2Z Maintenance & Engineering Services Limite	A2ZMES	500.0	100	500.0	0.0	0.0	2012-11-05 08:13:46.0
Aanjaneya Lifecare Limited	AANJANEYA	200.0	10	100.0	100.0	100.0	2012-11-08 12:32:18.0
Aarti Industries Limited	AARTIIND	197.0	500	197.0	0.0	0.0	2012-11-08 07:24:07.0
Aban Offshore Limited	ABAN	100.0	100	816.0	-716.0	-87.745094	2012-11-08 07:58:17.0
ABB Limited	ABB	300.0	10	300.0	0.0	0.0	2012-11-08 07:28:08.0
ABG Shipyard Limited	ABGSHIP	40.0	200	40.0	0.0	0.0	2012-11-08 07:32:15.0
Accelya Kale Solutions Limited	ACCELYA	300.0	200	300.0	0.0	0.0	2012-11-08 07:44:26.0

Top Gainers

Top Losers

20MICRONS

AANJANEYA

RAJPALAYAM

J&KBANK

NATCOPHARM

Most Active

20MICRONS

ABB

ABGSHIP

ZYLOG

ACCELYA

20MICRONS 100.0▲100.03IINFOTECH 101.0▲101.03MINDIA 101.0▲101.0A2ZMES 500.0▲500.0AANJANEYA 100.0▲100.0