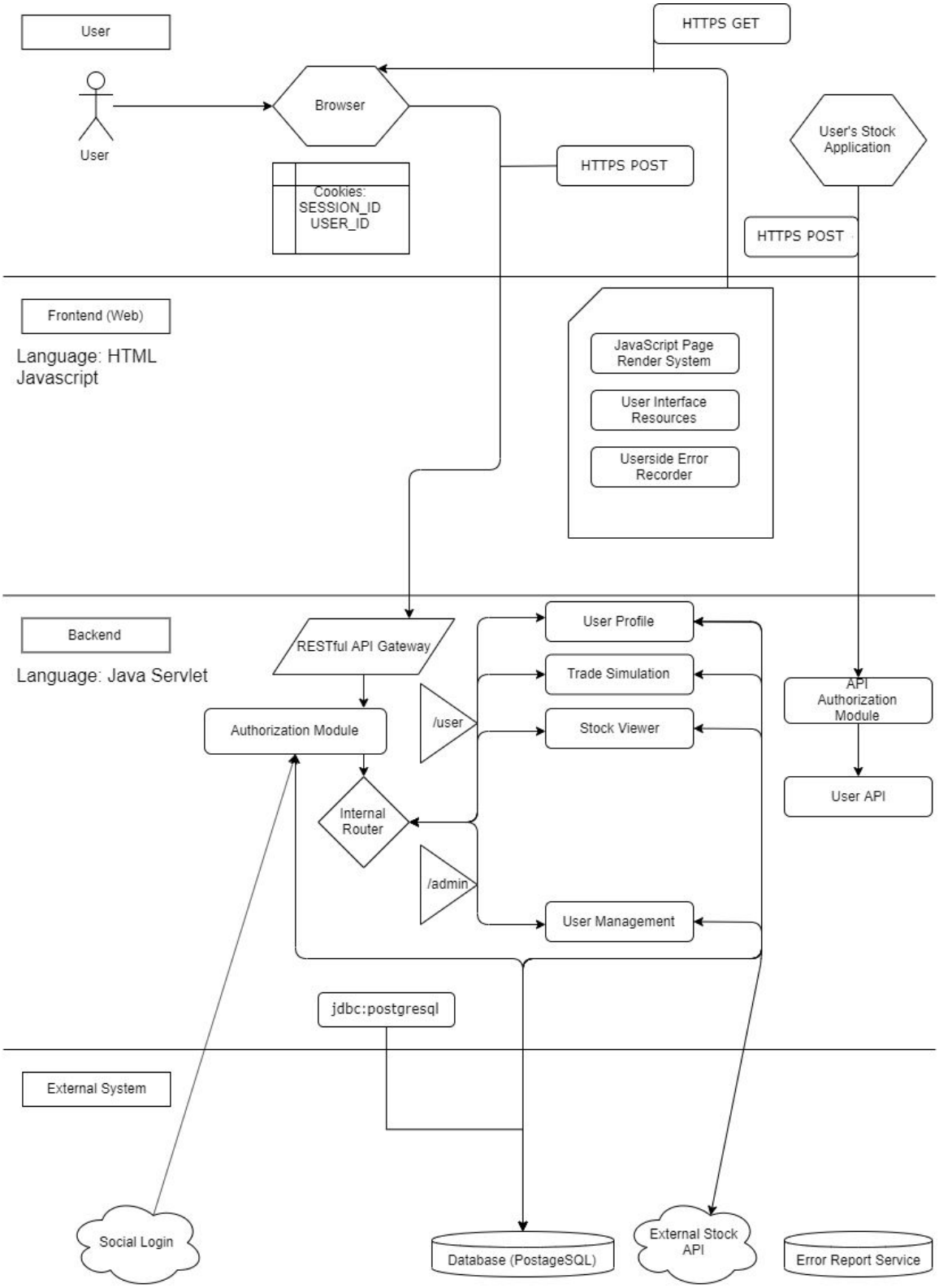
Database Design

PostgreSQL:

users		
PK	id	bigint
	username	varchar(50)
	password	varchar(50)
	name	varchar(255)
	email	varchar(255)
	stocks	jsonb

Architecture Diagram

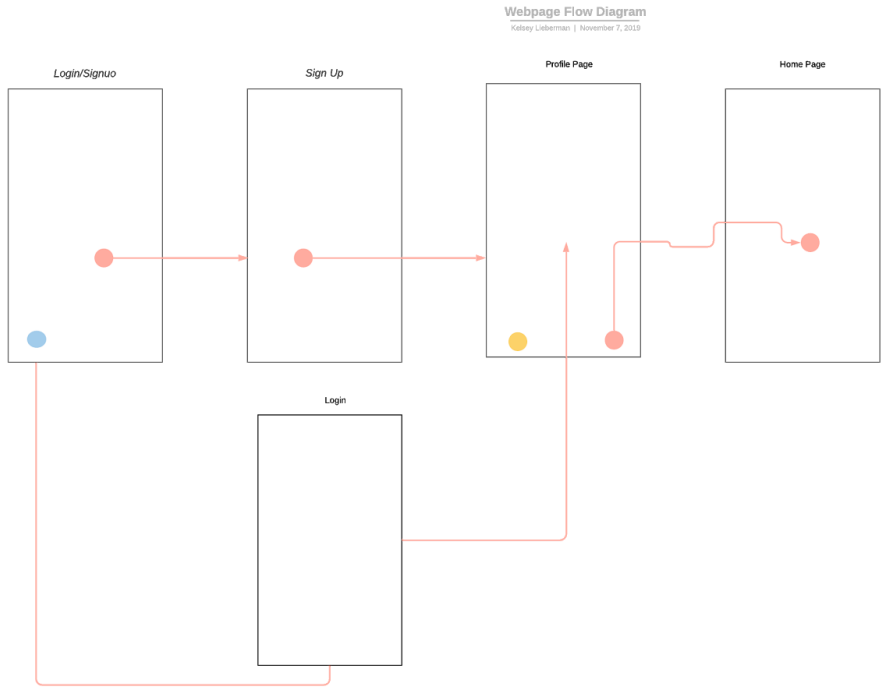


Web Service Design

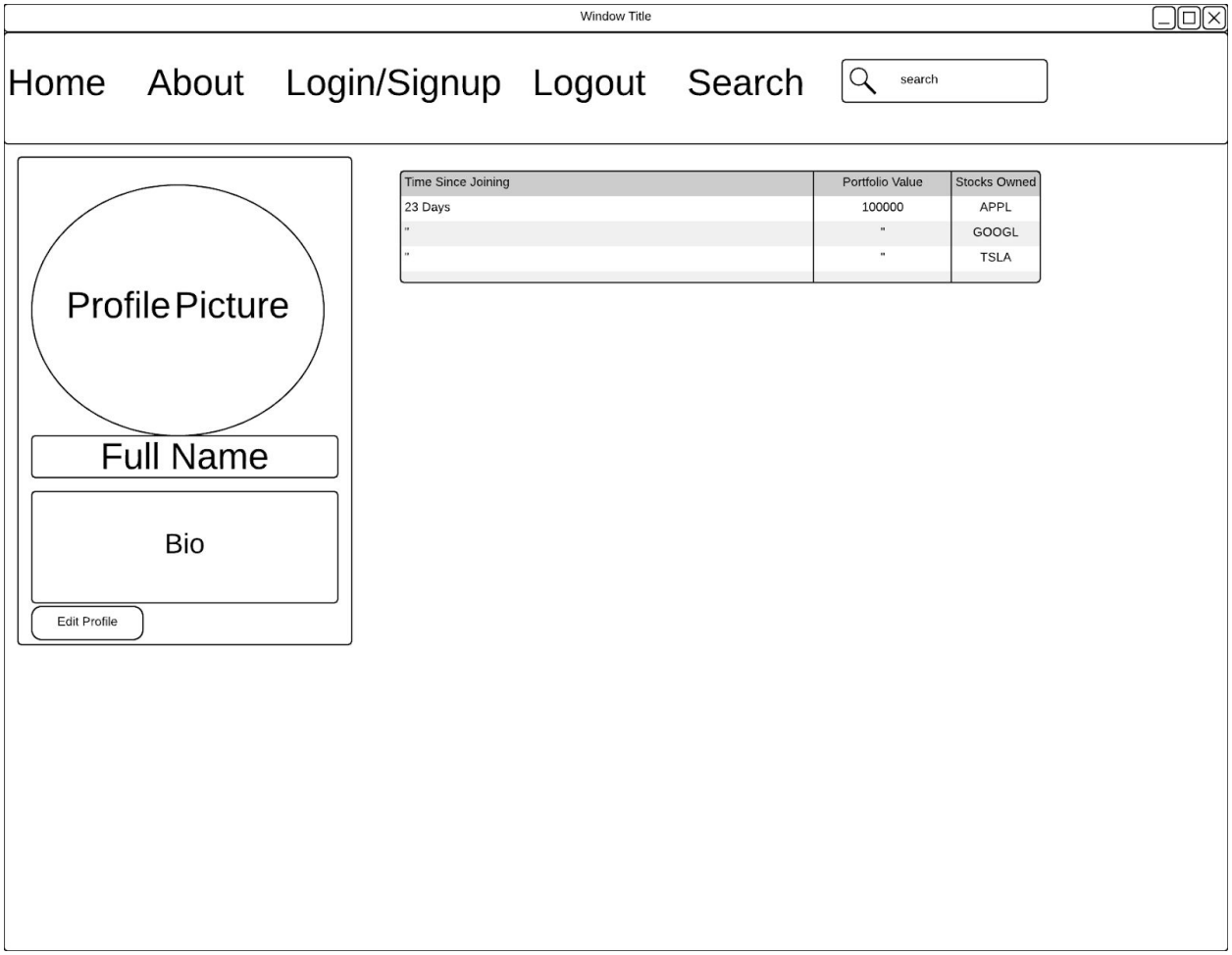
Alpha Vantage - This is a web service that outputs stock data such as opening, high, low, closing values, and the volume. The output data is in the form of JSON so it is easy to parse using libraries such as GSON. The webservice takes in 3 parameters, the first being the time series which is the time interval we want this data to be from such as intraday, daily, weekly, or monthly. The second parameter is the stock symbol and the third is the api key.

Front End Design

Login/Signup page, Login page, Signup page, Profile page, Home page



Flow Chart



Profile Page

Home Page / Stocks Page

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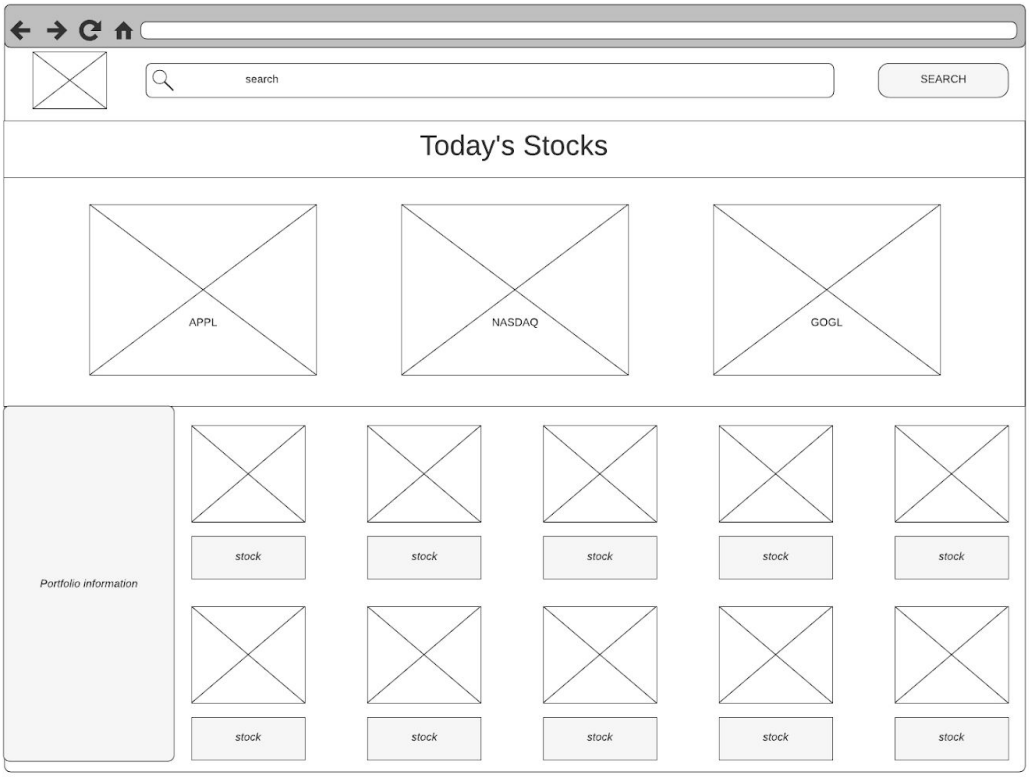
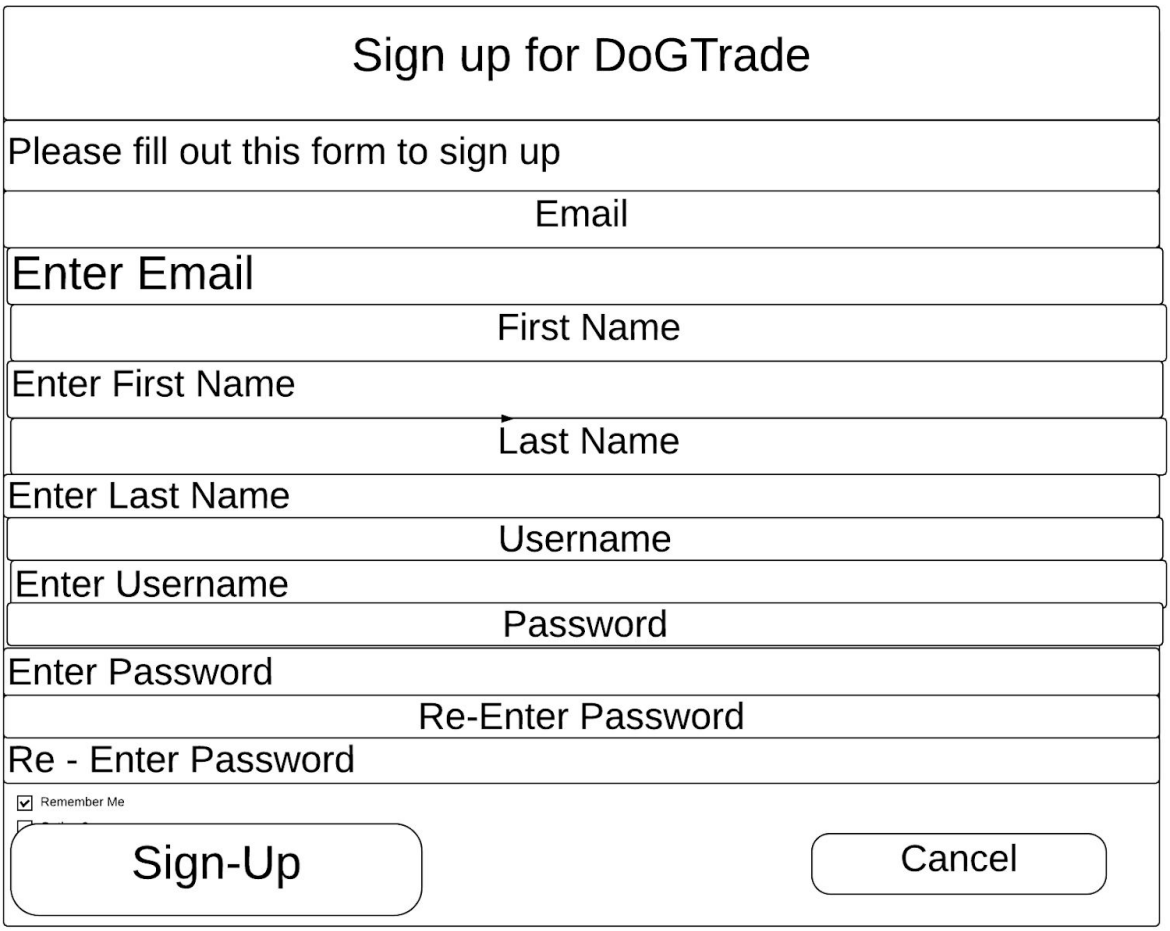


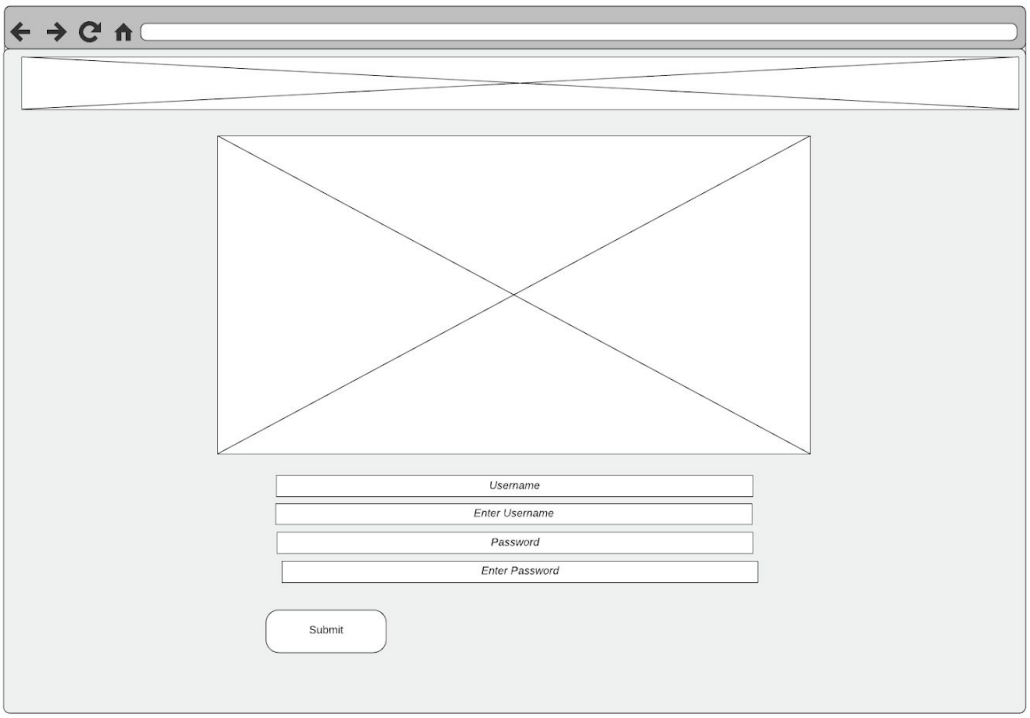
Home Page


Sign up for DoGTrade
Please fill out this form to sign up
Email
Enter Email
First Name
Enter First Name
Last Name
Enter Last Name
Username
Enter Username
Password
Enter Password
Re-Enter Password
Re - Enter Password
Remember Me
Sign-Up
Cancel

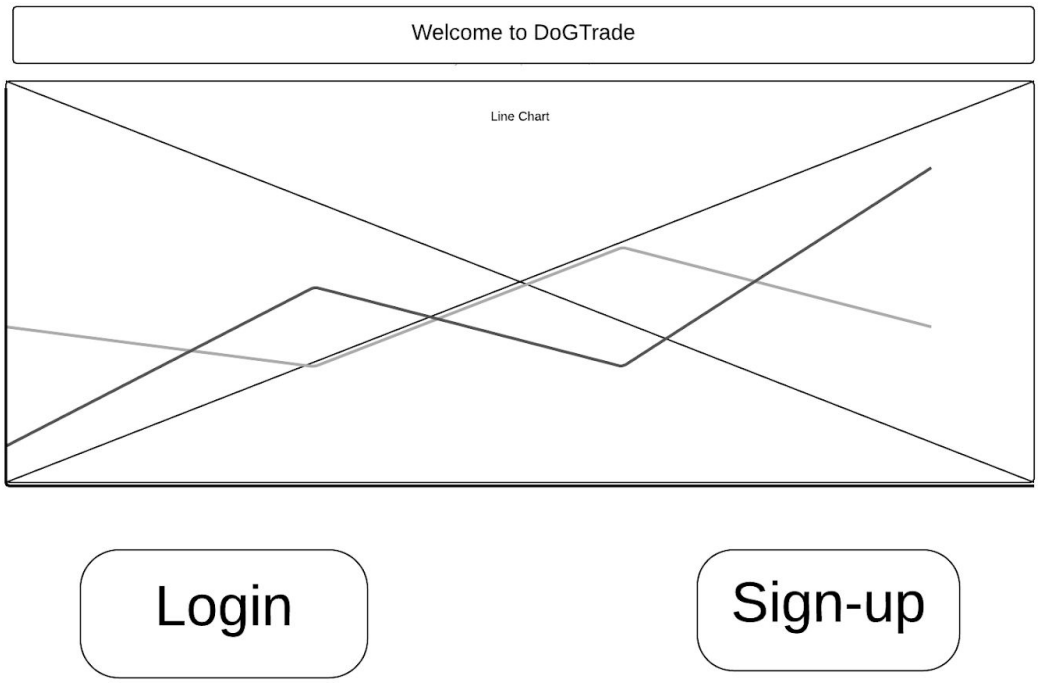
Sign Up Page

Login Page

Kelsey Lieberman | November 7, 2019



Login Page



Login/Signup Page

Features

○ VIEWING STOCKS - Window or div list of common stocks as well as stocks that are searched for.

Functional Requirements:

- Ability to view a certain searched stocks price, past changes, and historical data.
- Ability to view a list of common stocks with supplementary info as well as change preferences.

Non-Functional Requirements:

- The application is connected to a database of stocks with their information such as prices.
- The front-end(IOS App, Webpage) makes a request to a java servlet to get the requested information about the stock.
- The java servlet makes a request to the database of stock information.

○ IOS APP-IOS app to access your account and use the other features.

Functional Requirements:

- Ability to download the application on iPhone
- Ability to utilize all features of the webpage through the iPhone interface in the application

Non-Functional Requirements:

- The application is developed using Swift

○ LOGIN/SIGNUP - Login and signup feature to allow users to make accounts and login to them.

Functional Requirements:

- Ability to create a username and password for logging into the application and secure account info

Non-Functional Requirements:

- Created using HTML, CSS, Java servlet, and MySql
- The java servlet will create a new user in the MySql database table of users.

○ PROFILE PAGE - Section where you can view your profile.

Functional Requirements:

- Ability to upload user information
  - Email, Current Stocks Owned, and other relevant info
- Ability to see stocks the user is currently invested in

Non-Functional Requirements:

- Stocks imported from stock-trading IDE BackTrader

○ STOCK SEARCH BAR-Search bar where you can search for a stock based on the stock symbol.

Functional Requirements:

- Ability to search for certain stocks based on their symbols to view the stocks information.
- Ability to search for stocks by industry

Non-Functional Requirements:

- Created using HTML, CSS, and Java Servlet.
- When the user clicks the search button the webpage will make a request to the java servlet to search the database of stocks for the information that is correlated to that stock symbol.

○ WEBSITE-A webpage to access your account and to use the features above.

Functional Requirements:

- Accessible through web browser
- Ability to view stocks and their current values
- Ability to search stocks
- Ability to switch between tabs - Profile, Home (where stocks are displayed)

Non-Functional Requirements:

- Stocks imported from stock-trading IDE BackTrader

- Real-time or near-real-time stock value and information updates from the stock market.