Stock Virtual Machine WORKBOOK

Team Members:

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Client:

Benjamin Hughes

Project Description:

The Stock Virtual Machine is a web application that is designed to simulate buying and selling stocks in the stock market in a very realistic manner. Using the Stock Virtual Machine, user will get the full experience of buying and selling stocks without having to invest any actual currency.

To use the application users visit the web-page and must register. Once registered the user will have a set sum of virtual currency added to a virtual bank account. This money can then be used to virtually invest in stocks.

Collaboration Tool:

Link to the project **git**repository:
https://github.com/sujaypatel/CS422Project

Requirements:

Use Case #1:

Use Case Name	User Registration
Participating actors	New Users
Flow of events	1. User opens the browser and visits the URL localhost. 2. The system displays the Home screen with a Signup, Login, and Help button. 3. User clicks the "Sign up" button. 4. The system takes user to the registration page and asks to enter a username, password and an email address. 5. Once user completes the form, and presses "Create Account" button, the user gets redirected to Portfolio page. 6. The system displays user's portfolio, which contains a username and virtual bank account with $1000 balance.
Entry condition	User access the website through a web browser
Exit condition	User successfully creates the account.
Quality/Nonfunctional Requirements	The application should be loaded in 5 seconds after the user accesses it on a web browser

Use Case #2:

Use Case Name	Login
Flow of events	1. User opens the browser and visits the URL localhost. 2. The system displays the Home screen with a Signup, Login, and Help button. 3. User clicks the "Login" button. 4. The system takes user to Login page and ask user to enter username and password. 5. User enters the required information and clicks the "Submit" button. 6. The system verifies the username and password from database. 7. If the user enters incorrect information, then system asks user to reenter the information. 8. If the user enters correct information then system takes the user to portfolio page.
Entry condition	User access the website through a web browser
Exit condition	User successfully is able to login.
Quality/Nonfunctional Requirements	Authentication should be done within 2 seconds.

Use Case #3:

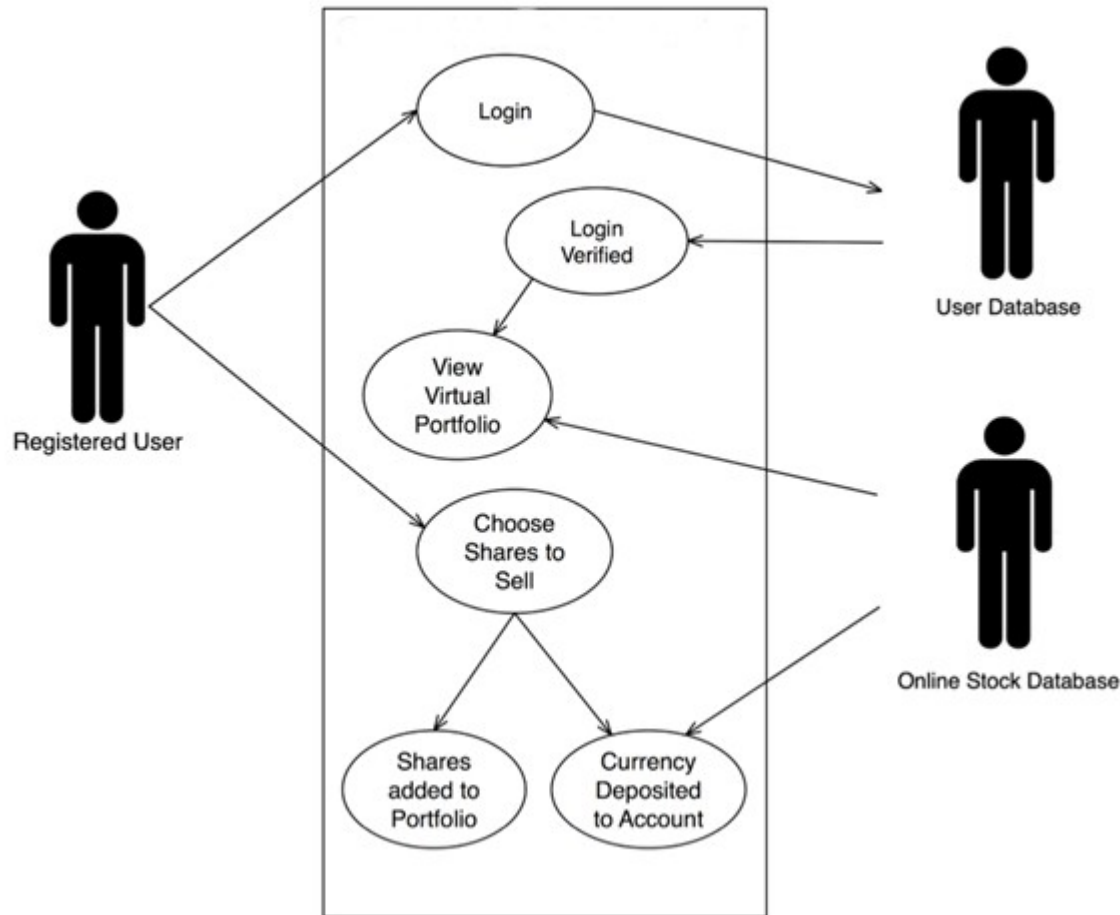| Use Case Name	Buy Stock
Participating actors	Registered Users
Flow of events	1. User opens the browser and visits the URL localhost. 2. Once the user Login successfully, then the system takes the user to portfolio page. 3. On portfolio page, the system provides user with the username, virtual balance, and three buttons i.e. Buy Stock, Sell Stock, Search Stock. 4. User click on "Buy Stock" button. 5. The system takes user to Buy Stock page where user will be able to select the company name and enter the quantity of stock that user want to buy for a select company. 6. The user click on "Purchase" button. 7. The system makes sure that user has enough amount of virtual money to purchase the stock.

	8. If the user has enough virtual money then the system allows user to purchase the stock and takes the user back to portfolio page. 9. On the portfolio page, it would display the list of stocks that the user owns and would update the virtual balance.
Entry condition	User access the website through a web browser
Exit condition	User successfully able to purchase the stock.
Quality/Nonfunctional Requirements	Once the user purchase the stock, their virtual balance and their portfolio should be updated within 5 seconds of the transaction.

Use Case #4:

Use case name	**Sell Stock**
Participating actors	Registered Users
Flow of events	1. User opens the browser and visits the URL localhost. 2. Once the user Login successfully, then the system takes the user to portfolio page. 3. On portfolio page, the system provides user with the username, virtual balance, and three buttons i.e. Buy Stock, Sell Stock, Search Stock. 4. User click on "Sell Stock" button. 5. The system takes user to Sell Stock page where user will be able to select the company name and enter the quantity of stock that user want to sell for a select company. 6. The user clicks on "Sell" button. 7. The system makes sure that user is not able to sell more stock than he owns. 8. Once the user sells the stocks then the system takes the user back to portfolio page. 9. On the portfolio page, it would display only the list of stocks that the user currently owns and would update the virtual balance.
Entry condition	User access the website through a web browser
Exit condition	User successfully able to sell the stock.
Quality/Nonfunctional Requirements	Once the user sells the stock, their virtual balance and their portfolio should be updated within 5 seconds of the transaction.

Use Case #5:

Use case name	Search Stock
Participating actors	Registered Users
Flow of events	1. User opens the browser and visits the URL localhost. 2. Once the user Login successfully, then the system takes the user to portfolio page. 3. On portfolio page, the system display user with the username, virtual balance, and three buttons i.e. Buy Stock, Sell Stock, Search Stock. 4. User clicks on "Search Stock" button. 5. The system takes user to Search page where user will be able to select the company name and click "Search" button. 6. The system displays the stock information and current price of the selected company. 7. If the user want to go back to portfolio page. then the user can click on "Back Portfolio" button.
Entry condition	User access the website through a web browser.
Exit condition	User successfully able to sell the stock.

Use Case #6:

Use case name	Exit Application
Participating actors	Registered Users
Flow of events	1. User opens the browser and visits the URL localhost. 2. Once the user Login successfully, then the system takes the user to portfolio page. 3. The system provides a "Logout" Button on the right side of the screen. 4. User clicks on the "Logout" button. 5. The system saves the user data and goes to login page.
Entry condition	User access the website through a web browser.
Exit condition	User successfully able to logout from the application.
Quality/Nonfunctional Requirements	The game should terminate within 2 seconds.

Specifications:

Goals:

Low Target:
Our team goal is to accomplish several things before March 16. For example, Ted is new to the stock market and wants to get a real world experience before venturing into the actual stock market. Using the Stock Virtual Machine, Ted shall be able to create an account; the system must allow Ted to login. Ted should be able to access his portfolio page.
Use Cases: User Registration, Login, & Exit Application

Desirable target:
Our next step then would be to implement the functionality of buy, sell, and search stocks feature. Ted will get the full experience of buying and selling stocks without having to invest any actual currency. On the user's portfolio webpage, the system shall update the table of the stocks and virtual balance once Ted makes any transaction. The system must prevent Ted from buying more stocks than the amount of virtual balance he has.

Use Cases: Buy Stock, Sell Stock, & Search Stock

High target:
At the end, our team goal would be to design the user-interface to make our web application look simple and attractive to the users.

Extras:
Extra feature that could be implemented in the future would beRSS Feed, and Forget Password Recovery.

Non-Goals:

● User authentication should be done within 2 seconds.
● The user should be able to view their latests transactions no later than 5 seconds.
● The system should not crash more than once in a week.
● The system shall ensure that the data is protected from unauthorized access.
● In case of an error, the time needed to get the system back to running should not exceed an hour.
● The system should support multiple users simultaneously.

Group Prototypes

User Login

Once user enter valid username and password then system takes the user to the portfolio page.

Help Menu

If user needs help using the application. If user click on "Help" then the system takes the user to the Help page.

User Registration

User Login

Help Menu

LOGIN SEARCH HELP

SERNAME LINISHA

FAQ

ABOUT US

St UP'

User Registration

User Registration

#1 SignUp Login Help Contact US

Stock Virtual Machine

Welcome Page

#2 SignUp Login Help Contact Us
Sign UP Page
First Name:
Last Name:
o Male o Female
Email Address:
Username:
Password:

#4 SignUp Login Help Contact US
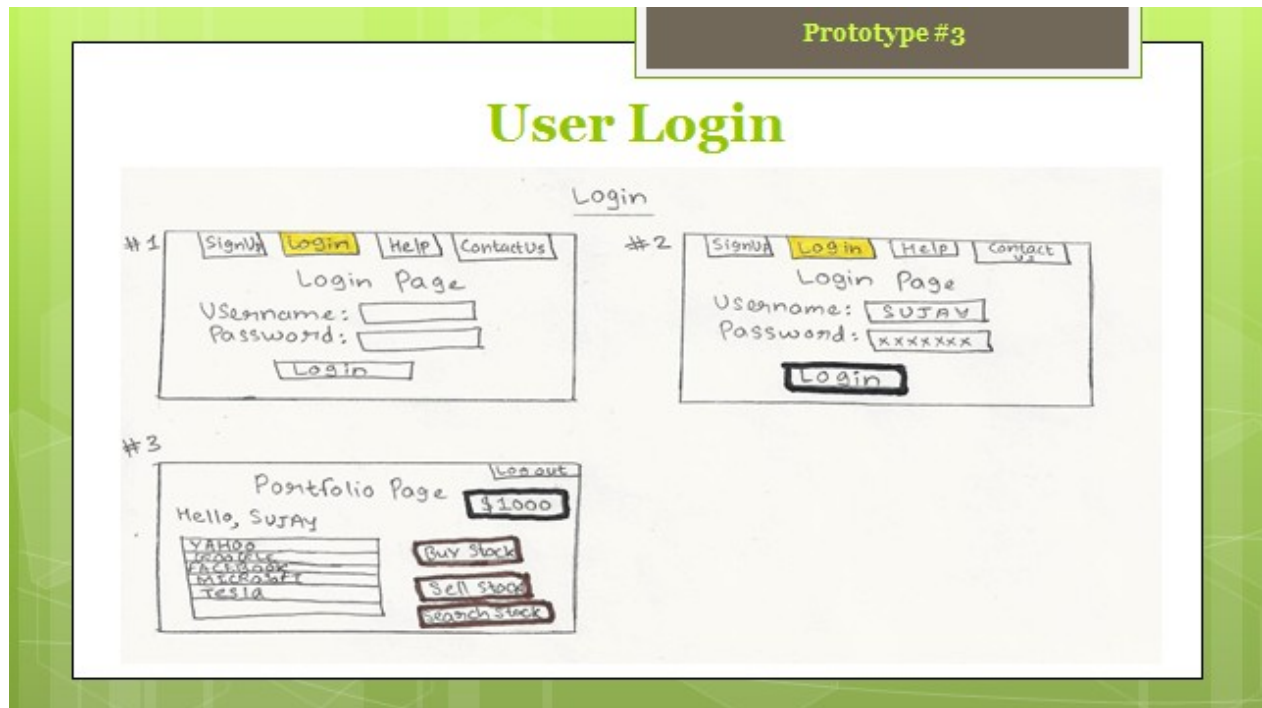
Client Feedback:

On Friday 02/27, all the project team members visited, the client, Benjamin Hughes for discussing the low target prototypes of the Stock Virtual Machine. Benjamin liked the overall layout of the web application and made several suggestions on improving the prototypes based on his requirements. He liked the idea of providing five navigation tabs at the top of the page i.e. Home, Sign up, Login, Help, and Contact Us. He suggested to make the user interface as user-friendly as possible. He also asked us to use less saturated colors as the background of the application. He mentioned that he would like to have a password retrieval feature that would help the users to retrieve their passwords in case they forget them.

Benjamin liked the design of the registration page; however, he highly recommended that the number of fields on the registration page should be kept minimum, as users might not like to give out more information than necessary. He suggested adding more detail to the Help page so that the users can get a better understanding on what the web application is about. Overall, the client is impressed by the presented low-target prototypes and he wants to implement most of the features from it.

<u>Report- Alpha Release</u>

Progress

Our team accomplished a low target goal for our presentation on March 16th. During our presentation, we were asked to simplify our website because it seemed like a lot was going on the website and there were too many colors and ideas. After our presentation, we made many changes to our design and color schemes, we have simplified our website. After improving our design, our next goal was to implement the functionality of buy, sell, and search stocks. We have accomplished the implementation of those goals before our alpha release as well.

Current State

Currently, we ere successful in implementing the functionalities of buy, sell, and search stocks. We have also given our website a new look that uses consistency, clarity and gives feedback. In the help page, we were able to separate the FAQ by the sections of login, register, portfolio and general information. We were also able to implement the forget recovery page and send the user their password to their email.

Layers completed

- ❖ Home page
- ❖ Register page
- ❖ Login page
- ❖ Portfolio page
    - ▪ Buy stocks page
    - ▪ Search stocks page
    - ▪ Sell stocks page
- ❖ About us page
- ❖ Help page
    - ▪ General FAQ
    - ▪ Login FAQ
    - ▪ Register FAQ
    - ▪ Portfolio FAQ

Current screenshots
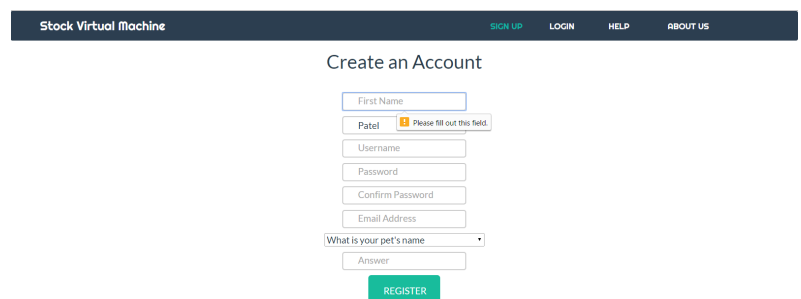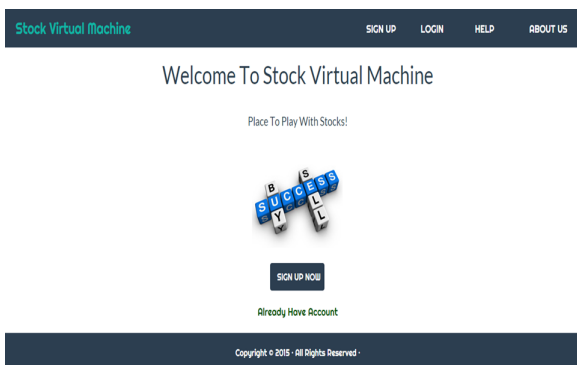
Recovery Password

USERNAME: [Username]

EMAIL ADDRESS: [Someone@gmail.com]

[SUBMIT]

Login To Stock Virtual Machine

USERNAME: [   ]

PASSWORD: [   ]

[SIGN IN]

Forgot Password

Help Menu

[FAQ]

1.What is a share?

In the US shares are referred to as stocks. A share is a single unit of ownership of a company.

2.Why do people buy shares?

To make money.

3.What is the stock market?

The term stock market is used across old and new media and often conjures up the image of a type of financial casino. But the stock market is much more than that. It a powerful tool for low risk wealth creation.

4.How do you buy and sell shares?

Nowadays, the vast majority of individual investors buy and sell their shares online. Years ago you would have needed to telephone a broker to buy and sell shares for you. Most brokers are now online and you can buy and sell shares anywhere with a computer and an internet connection. Online stock market investing has been around for so long that there are now legal safeguards in place to protect individual investors from fraud or the bankruptcy of your stockbroker. Always read the terms and conditions carefully of any online stockbroker you would like to invest with.

5.Does the shareholder own the company?

Being a shareholder is about having a vested interest in a company, its prospects, its financial position and the way it is run by management and how they treat shareholders.

6.What are dividends?

They are payments made to shareholders out of the money a company makes. For example, if you have 100 shares in Glaxosmithkline and they pay a yearly dividend of 1.00,

Ideas we could not accomplish - We were able to accomplish all our features and requirements that we aimed for in the beginning of the project.

Task

Task 1: Buy your stock

- o Go to Stock Virtual Machine website
- o From the homepage, on the top right corner, click on Register
- o On the register page, input information and submit
- o The next page will be your own portfolio page, click on the "Buy" button and it will take you the buy stocks page.

Task 2: Search for a stock

- o Go to Stock Virtual Machine website
- o From the homepage, on the top right corner, click on Register
- o On the register page, input information and submit
- o The next page will be your own portfolio page, click on the "Search" button and it will take you the search stocks page.

Task 3: Sell your stock

- o Go to Stock Virtual Machine website
- o From the homepage, on the top right corner, click on Register
- o On the register page, input information and submit
- o The next page will be your own portfolio page, click on the "Sell" button and it will take you the sell stocks page.

Questionnaire

❖ Clarity of instructions:

❖ At any time, were you unsure as to how to proceed? If so, describe:

❖ Please note any error messages you encountered:

❖ How easy was it to understand the titles on each page you accessed?

❖ Was it easy to get to the home page from the page you started on?

❖ What would encourage you to return to this site in the future?

❖ Name your two favorite things about the site, and your two least favorite things:

❖ How did you find the layout of the site?

❖ How did you feel about the color scheme?

Alpha release testing results