

Group 13 Stock Market Simulator Test and Inspection Report

Version <2.0>

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1.VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Himanshu Anand	11/20/2015	Akhil Kateja	11/21/2015	
2.0	Adil Qaisar	11/27/2015	Akhil Kateja	11/28/2015	Defect Status was added

2.Introduction

2.1 PURPOSE

This *Stock Market Simulator* Test Report provides a summary of the results of test performed as outlined within this document.

3. Project Overview

The Stock Market Simulation Program is going to be a web application that will be designed to simulate buying and selling stocks without the user having to invest real currency. It will deal with registering a user, logging in, viewing the dashboard, updating user's profile, searching companies and adding them to watchlist. It will also enable the user to seamlessly move from one page/feature of the application to the other. The Dashboard page is going to enable the user to view the list of stocks owned by him/her with the details such as live share price, quantity, day high/low, percentage change, percentage gain/loss and total gain/loss related to that share/transaction. The add to Watchlist feature will enable the user to search for a company and add the company to watchlist with the page displaying the list of the user's watchlist shares along with their details such as live price of the share, day high/low and the percentage change in the price of the share. The *Update Profile* feature will enable the user to update his/her details such as his/her username, address, occupation etc. The application will connect to the yahoo finance API to get the real time share prices and statistics. The dashboard and the user watchlist pages will provide the share names as clickable links, which will enable the user to view the graphical data associated with that share. The application will also display the Contact Us and the About Us information. It will add the additional functionalities of buying/selling share, logging into the application using social networking platforms and refreshing the application on stock price updation.

4.Test Summary

4.1 In Scope

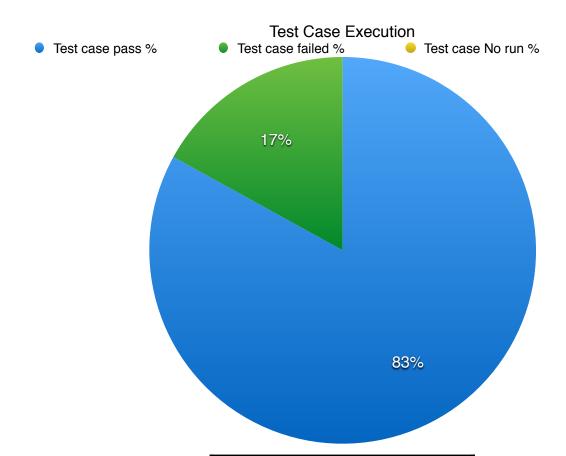
Functional Testing for the following modules are in Scope of Testing

- Login/Registration
- Portfolio
- Watchlist
- Buy Share
- Sell Share
- Profile

4.2 Out of Scope

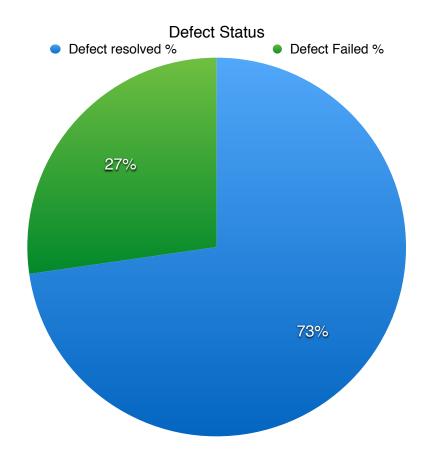
Performance Testing was not done for this application.

5.Test Execution Status



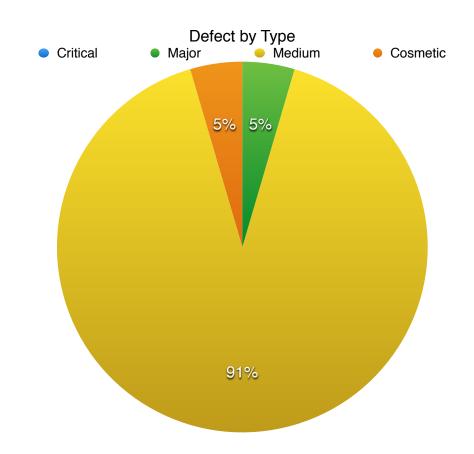
Test Execution Status					
Total Test cases planned	53				
Total Test cases executed	53				
Test Case No Run	0				
Out of scope	0				
Test Cases passed	44				
Test Cases Failed	9				
Test case pass %	83.0188679245283				
Test case failed %	16.9811320754717				
Test Case No Run %	0				

6.Defect Status



Defect Status					
Total Defects	22				
Resolved Defects	16				
Failed Defects	6				
Defect resolved %	72.7272727272727				
Defect failed %	27.2727272727273				

7.Defect Status by Type



	Login/Registration	Profile	Portfolio/Sell Share	Watchlist	Buy Share	Contact	About	Total
Critical								0
Major					1			1
Medium	5	2	6	3	4			20
Cosmetic						1		1
Total	5	2	6	3	5	1		22

Detailed Test Scripts

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC1_Registrati on_Panel_disp lay	To verify that the Registration Panel gets displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
TC2_Registrati on_Tile_slide right	To verify that the Registration Panel Tile slides to the right on hovering the mouse over the panel	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right	The Registration Panel tile slides to the right	Pass
TC3_Registrati on_Register_u sername_blan k	To verify that the following error message displays on clicking the Register button keeping the username field blank: "Please fill out this field."	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields keeping the username field as blank and click on Register button	An error message "Please fill out this field." should be displayed below the username text field.	Error message is displayed correctly.	Pass
TC4_Registrati on_Register_P assword_blank	To verify that the following error message displays on clicking the Register button keeping the Password field blank: "Please fill out this field."	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields keeping the Password field as blank and click on Register button	An error message "Please fill out this field." should be displayed below the username text field.	Error message is displayed correctly.	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC5_Registrati on_Register_C onfirm Password_bla nk	To verify that the following error message displays on clicking the Register button keeping the Confirm Password field blank: "Please fill out this field."	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields keeping the Confirm Password field as blank and click on Register button	An error message "Please fill out this field." should be displayed below the Confirm Password text field.	Error message is displayed correctly.	Pass
TC6_Registrati on_Register_E mail_blank	To verify that the following error message displays on clicking the Register button keeping the Email field blank: "Please fill out this field."	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields keeping the Email field as blank and click on Register button	An error message "Please fill out this field." should be displayed below the Email text field.	Error message is displayed correctly.	Pass
TC7_Registrati on_Password_ less_than_six_ charaters	To verify that the following error message displays when the user enters a password of less than six characters "Error: password must contain atleast six characters."	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and entering fewer than six characters in the Password field	The following error message should be displayed: "Error: password must contain atleast six characters."	Error message is displayed correctly.	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC8_Registrati on_Password_ no_lower_case _letter	To verify that the following error message displays when the user enters a password without any lower case characters "Error: password must contain at least one lowercase letter (a-z)!"	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and entering six or more upper case characters and numbers in the Password field	The following error message should be displayed: "Error: password must contain at least one lowercase letter (a-z)!"	Error message is displayed correctly.	Pass
TC9_Registrati on_Password_ no_upper_cas e_letter	To verify that the following error message displays when the user enters a password without any upper case characters "Error: password must contain at least one uppercase letter (A-Z)!"	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and entering six or more lower case characters and numbers in the Password field	The following error message should be displayed: "Error: password must contain at least one uppercase letter (A-Z)!"	Error message is displayed correctly.	Pass
TC10_Registra tion_Password _no_numbers	tion_Password following error	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and entering six or more lower case characters and upper case characters in the Password field	The following error message should be displayed: "Error: password must contain at least one uppercase letter (0-9)!"	Error message is displayed correctly.	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC11_Registra tion_Password _only_number s	To verify that the following error message displays when the user enters a password without any lower case and uppercase characters "Error: password must contain at least one number (0-9),one lowercase letter(a-z) and one uppercase letter(A-Z)!"	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and entering six or more numbers in the Password field	The following error message should be displayed: "Error: password must contain at least one number (0-9),one lowercase letter(a-z) and one uppercase letter(A-Z)!"	Incorrect error message "Error: password must contain at least one lowercase letter (a-z)!" is displayed.	Fail
TC12_Registra tion_email_wit hout_@	To verify that the following error message displays on clicking the Register button without entering an "@" in the email field: "Please include '@' in the email address.'(text entered)' is missing an '@'.	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and enter text without an '@' in the email field.	The following error message should be displayed: "Please include '@' in the email address.'(text entered)' is missing an '@'.	Error message is displayed correctly	Fail
TC13_Registra tion_password _mismatch	To verify that the following error message displays on clicking the Register button entering different passwords in password and confirm password fields: "passwords do not match."	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
			Step 2	Fill out the required fields and enter different characters in the password and confirm password fields	The following error message should be displayed: "passwords do not match".	Error message is displayed correctly	Pass
TC14_Registra tion_Success	To verify that the following message displays on entering the valid details in the Registration fields and clicking on the Register button: "Registration Successful.Please proceed to Login"	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Register Tile	The Registration Panel tile should slide to the right and Registration Panel should be displayed with the following options: 1)Username 2)Password 3)Confirm Password 4)Email and a Register button	The Registration Panel is displayed with the options	Pass
			Step 2	Fill out the required fields and click on Register button	The following message should be displayed: "Registration Successful.Please proceed to Login".	Success message is displayed correctly	Pass
TC15_Login_F ailure	To verify that the following message displays on Unsuccessful Login	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Login Tile	The Login Panel tile should slide to the right and Login Panel should be displayed with the following options: 1)Username 2)Password and a Login button	The Login Panel is displayed with the options	Pass
			Step 2	Fill out the required fields with incorrect credentials and click on Login button	The following message should be displayed: "Login Failed,Invalid Username Password Entered".	Error message is displayed correctly	Pass
TC16_Login_S uccess	To verify that the user is navigated to the Portfolio page on successful login	User should have entered the application URL and navigated to the Home page	Step 1	Hover the mouse on the Login Tile	The Login Panel tile should slide to the right and Login Panel should be displayed with the following options: 1)Username 2)Password and a Login button	The Login Panel is displayed with the options	Pass
			Step 2	Fill out the required fields with correct credentials and click on Login button	The user should be navigated to the Portfolio page	The user is navigated to the portfolio page.	Pass
TC17_Login_F acebook_Succ ess	To verify that the user is able to login to the application through facebook	User should have entered the application URL and navigated to the Home page	Step 1	Click on the "Login with Facebook" panel	Facebook Login Page should be displayed	Facebook Login Page is displayed	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
			Step 2	Fill out the required fields with correct credentials and click on Login	The user should be navigated to the Profile page	The user is navigated to the Profile page	Pass
TC18_Login_T witter_Success	To verify that the user is able to login to the application through Twitter	User should have entered the application URL and navigated to the Home page	Step 1	Click on the "Login with Twitter" panel	Twitter Login Page should be displayed	Nothing happens	Fail
			Step 2	Fill out the required fields with correct credentials and click on Login	The user should be navigated to the Profile page	Nothing happens	Fail
TC19_Login_G mail_Success	To verify that the user is able to login to the application through Gmail	User should have entered the application URL and navigated to the Home page	Step 1	Click on the "Login with Gmail" panel	Gmail Login Page should be displayed	Nothing happens	Fail
			Step 2	Fill out the required fields with correct credentials and click on Login	The user should be navigated to the Profile page	Nothing happens	Fail
TC20_Login_Li nkedIn_Succe ss	To verify that the user is able to login to the application through LinkedIn	User should have entered the application URL and navigated to the Home page	Step 1	Click on the "Login with LinkedIn" panel	LinkedIn Login Page should be displayed	Nothing happens	Fail
			Step 2	Fill out the required fields with correct credentials and click on Login	The user should be navigated to the Profile page	Nothing happens	Fail
TC21_FindUs_ Facebook_Suc cess	To verify that the user is able to navigate to the application's Facebook page.	User should have entered the application URL and navigated to the Home page	Step 1	Click on the "Find Us on Facebook" panel	Application's Facebook page should be displayed.	Application's Facebook page is displayed	Pass
TC22_Contact Us_Facebook_ Success	To verify that the user is able to navigate to the developer's Facebook page.	User should have entered the application URL and navigated to the Home page	Step 1	Click on the "Contact Us" panel	Application developer's Facebook page should be displayed.	Application developer's Facebook page is displayed	Pass
TC23_Login_T iles	To verify that all the tiles on the Login page are working correctly	User should have entered the application URL and navigated to the Home page	Step 1	Hover mouse over various tiles	The Login and Registration tiles should slide to the right whereas the remaining slides should slide to the the bottom	Tiles are working as expected.	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC24_PortFoli o_table_fields	To verify the fields of the table on portfolio page and their order	User should have valid credentials and should be logged in	Step 1	Verify the names and order of the following table fields on portfolio page: 1)Company/Sector 2)Live Price 3)Change 4)Quantity 5)Inv. Price 6)Day's High 7)Day's Low 8)Overall Gain 9)Overall Gain% 10)Latest Value 11)Actions	The field names should be correct and should appear in the proper order	The field names are correct and appear in proper order	Pass
TC25_Portfolio _New_User_di splay	To verify that the table fields are blank and "No data available in table" displayed inside the table	User should have valid credentials and should be logged in	Step 1	Verify that the table fields are blank and "No data available in table" displayed inside the table	The table fields should be blank and "No data available in table" should be displayed	The table fields are blank and "No data available in table" is displayed.	Pass
TC26_Portfolio _Sell_Stocks_ fields_disabled	To verify that the Sell Stocks text fields and button are disabled until the user selects a stock to sell	User should have valid credentials and should be logged in	Step 1	Verify the Sell Stocks text fields	The Sell stocks fields and button should be disabled	The fields and button are disabled.	Pass
TC27_BuyStoc ks_table_fields	To verify the fields of the table on Buy stocks page and their order	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Verify the names and order of the following table fields on portfolio page: 1)Company/Sector 2)Live Price 3)Change% 4)Day's High 5)Day's Low 6)Actions 7)Graph	The field names should be correct and should appear in the proper order	The field names are correct and appear in proper order	Pass
TC28_BuyStoc ks_fields_disa bled	To verify that the Buy Stocks text fields and button are disabled until the user selects a stock to buy	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Verify the buy Stocks text fields	The Buy stocks fields and button should be disabled	The fields and button are disabled.	Pass
TC29_BuyStoc ks_Search_Co mpany	To verify that the user is able to search for a company by typing its name in the Search Company text field	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC30_BuyStoc ks_View_Histo ry	To verify that the company's stocks history data gets populated in the table fields when the user clicks on the View History button	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
ks_Search_Co mame company_overla p appe Sear drop overl other	To verify that the names of the companies that appear in the Search Company drop down do not overlap with the other components on the page	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should not overlap with other components on the page	The Company name overlaps with other components	Fail
TC32_BuyStoc ks_Company_ Graph	To verify that the user is able to view the graphical representation of the company's stock fluctuations over the following time periods: 1)3 Days 2)5 Days 3)15 Days 4)1 Month 5)3 Months 6)6 Months 7)1 Year 8)5 Years	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the time period under Graph column for which you want to view the stock's history	A graph should be displayed on a new tab	Graph is displayed on a new tab	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC33_BuyStoc ks_Fields_ena bled	To verify that the Buy Stocks fields get enabled when the user clicks on the Buy button under Actions column	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
TC34_BuyStoc ks_Buy_table_ field_blank	To verify that the table fields become blank when the user clicks on the buy button after the entering the allowable quantity of stocks	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
			Step 5	Enter a valid entry in the Enter Quantity field and click on Buy	The table data should disappear	The table data gets disappeared	Pass
TC35_BuyStoc ks_Buy_Succe ss	To verify that the user is buy the stocks successfully and the stock information gets updated on the Portfolio page and the updated Virtual currency should be displayed on the Profile page	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
			Step 5	Enter a valid quantity to buy and click on Buy button	The table data should disappear	The table data gets disappeared	Pass
			Step 6	Click on the Portfolio menu	Portfolio page should be displayed	Portfolio page is displayed	Pass
			Step 7	To verify that the stock bought is visible on the portfolio page with the actual quantity bought	the stock bought should be visible on the portfolio page with the actual quantity bought	the stock bought is visible on the portfolio page with the actual quantity bought	Pass
			Step 8	Click on the Profile menu in the navigation bar	The profile page should open	The profile page opens	Pass
			Step 9	To verify that the virtual currency value	Virtual currency value should get updated correctly on the profile page.	Virtual Currency value gets updated correctly	Pass
TC36_BuyStoc ks_negative quantity	To verify that an error should be displayed if the user enters a negative value in the Enter Quantity field	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
			Step 5	Enter a negative value in the quantity to buy and click on Buy	An error should be displayed	The stock is displayed on the user's portfolio page with the negative quantity entered.	Fail
TC37_BuyStoc ks_Enter_quan tity_invalid_ch aracters	To verify that an error is displayed if the user enters an alphabet or a special character in the Enter Quantity and clicks on the Buy button	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
			Step 5	Enter an alphabet or a special character in the quantity to buy and click on Buy	An error should be displayed	An error is displayed	Pass
TC38_BuyStoc ks_amount_ex ceeding_virtual _currency	To verify that the following error gets displayed if the user tries to purchase stocks of amount greater than the amount available in their virtual currency: "You have exceeded your available currency value!"	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
			Step 5	Enter a value in the Enter quantity field such that the total value of shares to be bought exceeds the amount available in the virtual currency and click on Buy	"You have exceeded your available currency value!" error message should be displayed	Error message displayed correctly	Pass
TC39_BuyStoc ks_autopopulat e_company_n ame	To verify that the name of the company of which the user wishes to buy shares gets auto populated in the Buy Stock field when the user clicks on the Buy button in the Actions column	User should have valid credentials and should be logged in	Step 1	Click on the Buy menu in the navigation bar	The Buy stock page should be displayed	The Buy stock page is displayed	Pass

Test Case #	ase # Test Objective Pre-requisites Step Name Test Steps		Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)	
			Step 2	Type the name of the company in the Search Company text field	The Company name should be displayed	The Company name is displayed	Pass
			Step 3	Click on View History button	The Company's stock history data should be populated in the table fields	The Company's stock history data is populated in the table fields	Pass
			Step 4	Click on the Buy button in the Actions column	The Buy Stock fields should be enabled	The Buy Stocks fields are enabled	Pass
			Step 5	Verify that the Company name gets auto populated in the Buy Stocks field and it should be disabled	The company name should get auto populated and it should be disabled	The company name gets auto populated and is disabled	Pass
TC40_SellStoc ks_Success	To verify that the user is able to sell the stocks from the Portfolio page	User should have valid credentials and should be logged in and the user should have some stocks in their account	Step 1	Click on the Sell menu in the navigation bar	The Sell stock page should be displayed	The Sell stock page is displayed	Pass
			Step 2	Click on the Sell button under Actions column	The Sell Stocks fields and Sell button should be enabled	The fields and button gets enabled	Pass
			Step 3	Enter an allowable quantity in the Enter Quantity field and click on Sell	The updated quantity should be selected on the Portfolio page	The updated quantity is reflected on the Portfolio page	Pass
			Step 4	Click on the Profile menu in the navigation bar	The Profile page should open	The Profile page gets opened	Pass
			Step 5	Verify the Virtual currency amount on the Profile page	The virtual currency amount should get updated	The virtual currency is updated successfully	Pass
TC41_SellStoc ks_quantity exceeding the quantity available	To verify the following error message if the user enters a quantity more that the quantity available with him to sell: "Entered quantity greater than owned quantity!"	User should have valid credentials and should be logged in and the user should have some stocks in their account	Step 1	Click on the Sell menu in the navigation bar	The Sell stock page should be displayed	The Sell stock page is displayed	Pass
			Step 2	Click on the Sell button under Actions column	The Sell Stocks fields and Sell button should be enabled	The fields and button gets enabled	Pass
			Step 3	Enter a quantity greater that the quantity available and click sell	"Entered quantity greater than owned quantity!" error message should be displayed	Correct error message gets displayed.	Pass

Test Case # Test Objective		Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC42_SellStoc ks_negative_q uantity	To verify that an error is displayed if the user attempts to sell a negative quantity	User should have valid credentials and should be logged in and the user should have some stocks in their account	Step 1	Click on the Sell menu in the navigation bar	The Sell stock page should be displayed	The Sell stock page is displayed	Pass
			Step 2	Click on the Sell button under Actions column	The Sell Stocks fields and Sell button should be enabled	The fields and button gets enabled	Pass
			Step 3	Enter a negative Quantity to sell and click on Sell	An error message should be displayed	The transaction is successful and the absolute value of the quantity gets added	Fail
TC43_SellStoc ks_fall_stocks sold	To verify that the stock entry gets removed from the Portfolio page when the user sells all the stocks available with him	User should have valid credentials and should be logged in and the user should have some stocks in their account	Step 1	Click on the Sell menu in the navigation bar	The Sell stock page should be displayed	The Sell stock page is displayed	Pass
			Step 2	Click on the Sell button under Actions column	The Sell Stocks fields and Sell button should be enabled	The fields and button gets enabled	Pass
			Step 3	Enter the quantity to sell equivalent to the quantity currently available with the user and click on Sell	The stock entry should get deleted from the Portfolio page	The stock entry is not deleted and quantity is displayed with zero value	Fail
TC44_SellStoc ks_SearchStoc k	To verify that the user is able to search the stock they currently hold by entering the nam of the stock in the Search text field	User should have valid credentials and should be logged in and the user should have some stocks in their account	Step 1	Click on the Sell menu in the navigation bar	The Sell stock page should be displayed	The Sell stock page is displayed	Pass
			Step 2	Search the company by entering its name in the Search text field	The stock entry of the company should get displayed on top	The stock name of the company gets displayed on top	Pass
			Step 3	Search the company by entering its name in the Search text field	The stock entry of the company should get displayed on top	The stock name of the company gets displayed on top	Pass
TC45_Login_ With_Faceboo k_Success	To verify that the user is able to Login successfully with Facebook	User should have entered the application URL and navigated to the Home page and they should have valid Facebook credentials	Step 1	Click on Login with Facebook Panel	Facebook Login page should open	Facebook Login page is opened	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
			Step 2	Enter the credentials and click on Login	Login should be successful and the user's portfolio page should be displayed	Login is successful and user's portfolio page gets displayed.	Pass
			Step 3	Click on the Profile menu in the navigation bar	The user's email address registered with Facebook should get auto populated	The user's email address is auto populated	Pass
TC46_Profile_ Field	To verify the following elements on the Profile page: 1)Name 2)Email 3)Gender radio button 4)Date of Birth selector 5)Occupation 6)Industry 7)Annual Income 8)Virtual Currency	User should have valid credentials and should be logged in	Step 1	Click on the Profile menu in the navigation bar	The Profile page should open	The Profile page gets opened	Pass
			Step 2	Verify the following fields on the Profile page: 1)Name 2)Email 3)Gender radio button 4)Date of Birth selector 5)Occupation 6)Industry 7)Annual Income 8)Virtual Currency	The fields should be displayed and should	The fields are displayed	Pass
TC47_Profile_ VirtualCurency _Autopopulate	To verify that the virtual currency gets auto populated with amount 20000 dollars for a new user	User should have valid credentials and should be logged in	Step 1	Click on the Profile menu in the navigation bar	The Profile page should open	The Profile page gets opened	Pass
			Step 2	Verify the Virtual Currency field	Virtual currency field should get auto populated with 20000 dollars	Virtual currency field is auto populated with 20000 dollars	Pass
TC48_Profile_ Submit	To verify that the user is able to update their profile information	User should have valid credentials and should be logged in	Step 1	Click on the Profile menu in the navigation bar	The Profile page should open	The Profile page gets opened	Pass
			Step 2	Fill up the fields on the Profile page and click on submit	The Profile should get updated	The Profile is getting updated.	Pass
TC49_About	To verify that the user is able to navigate to the About page by clicking on the About menu in the menu bar	User should have valid credentials and should be logged in	Step 1	Click on the About menu in the menu bar	The user should be navigated to About page	The user is navigated to the About page	Pass

Test Case #	Test Objective	Pre-requisites	Step Name	Test Steps	Expected Result	Actual Result	Status (Pass/ Fail)
TC50_Contact	To verify that the user is able to navigate to the Contact page by clicking on the About menu in the menu bar	User should have valid credentials and should be logged in	Step 1	Click on the Contact menu in the menu bar	The user should be navigated to Contact page	The user is navigated to the Contact page	Pass
TC51_Contact	To verify that the table of Contacts is aligned in the centre of the screen	User should have valid credentials and should be logged in	Step 1	Click on the Contact menu in the menu bar	The user should be navigated to Contact page	The user is navigated to the Contact page	Pass
			Step 2	To verify that the Table of Contacts is aligned in the centre	Table of Contacts should be aligned in the centre	Table is not aligned in the centre	Fail
TC52_Logout	To verify that the user is able to successfully logout of the application	User should have valid credentials and should be logged in	Step 1	Click on the Logout menu in the top right corner in the menu bar	The user should be navigated to the homepage and their session should close	The user is navigated to the Homepage	Pass
TC53_Refresh	To verify that the stock data refreshes successfully after one minute	User should have valid credentials and should be logged in and the user should have some stocks in their account	Step 1	Wait for one minute and verify whether the stock data refreshes to display the current data	Stock data should refresh after one minute	Stock data gets refreshed after one minute	Pass

CODE INSPECTION REPORT

I. Introduction

1. Purpose of Code Inspection

Code Inspection is systematic examination (often known as peer review) of computer source code. It is intended to find and fix mistakes overlooked in the initial development phase, improving both the overall quality of software and the developers' skills. The basic purpose of code inspection includes:

- Ensures that code has sufficient quality to be released/ committed.
- Ensures that the code is properly formatted/ commented.
- Ensures that the code is correct, efficient and performant.
- ➤ Helps to maintain a level of consistency in design and implementation.
- ➤ Helps to identify common defects across the team thus reducing rework.
- ➤ Team cohesiveness. Working together helps draw team members closer. It also brings a brief respite from the isolation that coding often brings.

2. Coding Conventions

The following coding conventions were followed for the code inspection of Stock Market Simulator application:

- ➤ Each Java source file contains a single public class or interface. When private classes and interfaces are associated with a public class, you can put them in the same source file as the public class. The public class should be the first class or interface in the file.
- All source files should begin with a c-style comment that lists the class name, version information, date, and copyright notice.
- The first non-comment line of most Java source files is a package statement. After that, import statements can follow.
- > The declaration of class as well instance variables should follow the following order:
 - First the public class variables, then the protected, then package level (no access modifier), and then the private.
- ➤ Methods should be grouped by functionality rather than by scope or accessibility. For example, a private class method can be in between two public instance methods. The goal is to make reading and understanding the code easier.
- Avoid lines longer than 80 characters, since they're not handled well by many terminals and tools. When an expression will not fit on a single line, break it according to these general principles:
 - Break after a comma.
 - Break before an operator.
 - Prefer higher-level breaks to lower-level breaks.
 - Align the new line with the beginning of the expression at the same level on the previous line.

- If the above rules lead to confusing code or to code that's squished up against the right margin, just indent 8 spaces instead.
- ➤ Block comments are used to provide descriptions of files, methods, data structures and algorithms. Block comments may be used at the beginning of each file and before each method. They can also be used in other places, such as within methods. Block comments inside a function or method should be indented to the same level as the code they describe.
- ➤ Short comments can appear on a single line indented to the level of the code that follows. If a comment can't be written in a single line, it should follow the block comment format. A single-line comment should be preceded by a blank line.
- ➤ Very short comments can appear on the same line as the code they describe, but should be shifted far enough to separate them from the statements. If more than one short comment appears in a chunk of code, they should all be indented to the same tab setting.
- ➤ The // comment delimiter can comment out a complete line or only a partial line. It shouldn't be used on consecutive multiple lines for text comments; however, it can be used in consecutive multiple lines for commenting out sections of code
- ➤ Doc comments describe Java classes, interfaces, constructors, methods, and fields. Each doc comment is set inside the comment delimiters /**...*/, with one comment per class, interface, or member
- > One declaration per line is recommended since it encourages commenting
- > Try to initialize local variables where they're declared. The only reason not to initialize a variable where it's declared is if the initial value depends on some computation occurring first.
- ➤ Put declarations only at the beginning of blocks. (A block is any code surrounded by curly braces "{" and "}".) Don't wait to declare variables until their first use; it can confuse the unwary programmer and hamper code portability within the scope.
- ➤ When coding Java classes and interfaces, the following formatting rules should be followed:
 - No space between a method name and the parenthesis "(" starting its parameter list.
 - Open brace "{" appears at the end of the same line as the declaration statement.
 - Closing brace "}" starts a line by itself indented to match its corresponding opening statement, except when it is a null statement the "}" should appear immediately after the "{".
- Each line should contain at most one statement.
- > Compound statements are statements that contain lists of statements enclosed in braces "{ statements }".
- > The enclosed statements should be indented one more level than the compound statement.
- > The opening brace should be at the end of the line that begins the compound statement; the closing brace should begin a line and be indented to the beginning of the compound statement.

- ➤ Braces are used around all statements, even single statements, when they are part of a control structure, such as an if-else or for statement. This makes it easier to add statements without accidentally introducing bugs due to forgetting to add braces.
- A return statement with a value should not use parentheses unless they make the return value more obvious in some way
- ➤ The if-else class of statements should have the following form:

```
if (condition) {
    statements;
}

if (condition) {
    statements;
} else {
    statements;
}

if (condition) {
    statements;
} else if (condition) {
    statements;
} else {
    statements;
} else {
    statements;
}
```

> A for statement should have the following form:

```
for (initialization; condition; update) {
   statements;
}
```

- An empty for statement (one in which all the work is done in the initialization, condition, and update clauses) should have the following form: for (*initialization*; *condition*; *update*);
- ➤ A while statement should have the following form:

```
while (condition) {
   statements;
}
```

- An empty while statement should have the following form: while (*condition*);
- > A do-while statement should have the following form:

```
do {
    statements;
} while (condition);
```

A switch statement should have the following form:

```
switch (condition) {
case ABC:
    statements;
```

```
/* falls through */
case DEF:
    statements;
    break;
case XYZ:
    statements;
    break;
default:
    statements;
break;
```

- Every switch statement should include a default case. The break in the default case is redundant, but it prevents a fall-through error if later another case is added.
- A try-catch statement should have the following format:

```
try {
    statements;
} catch (ExceptionClass e) {
    statements;
}
```

A try-catch statement may also be followed by finally, which executes regardless of whether or not the try block has completed successfully.

```
try {
    statements;
} catch (ExceptionClass e) {
    statements;
} finally {
    statements;
}
```

- ➤ Blank lines improve readability by setting off sections of code that are logically related
- > Two blank lines should always be used in the following circumstances:
 - Between class and interface definitions.
- ➤ One blank line should always be used in the following circumstances:
 - Between methods.
 - Between the local variables in a method and its first statement.
 - Before a block.
 - Between logical sections inside a method to improve readability.
- ➤ Blank spaces should be used in the following circumstances:
 - A keyword followed by a parenthesis should be separated by a space
 - A blank should appear after commas in argument lists.
 - All binary operators except . should be separated from their operands by spaces. Blank spaces should never separate unary operators such as unary minus, increment ("++"), and decrement ("--") from their operands.
 - The expressions in a for statement should be separated by blank spaces.

- Casts should be followed by a blank space
- ➤ Don't make any instance or class variable public without good reason. Often, instance variables don't need to be explicitly set or gotten-often that happens as a side effect of method calls.
- Avoid using an object to access a class (static) variable or method. Use a class name instead.
- Numerical constants (literals) should not be coded directly, except for -1, 0, and 1, which can appear in a for loop as counter values.
- Avoid assigning several variables to the same value in a single statement. It is hard to read.
- ➤ It is generally a good idea to use parentheses liberally in expressions involving mixed operators to avoid operator precedence problems. Even if the operator precedence seems clear to you, it might not be to others-you shouldn't assume that other programmers know precedence as well as you do
- ➤ If an expression containing a binary operator appears before the ? in the ternary ?: operator, it should be parenthesized
- ➤ Use XXX in a comment to flag something that is bogus but works. Use FIXME to flag something that is bogus and broken.

> Naming Conventions

Identifier Type	Rules for Naming	Examples
Packages	The prefix of a unique package name is always written in all-lowercase ASCII letters and should be one of the top-level domain	com.sun.eng com.apple.quicktime.v2 edu.cmu.cs.bovik.cheese
	names, currently com, edu, gov, mil, net, org, or one of the English two-letter codes identifying countries as specified in ISO Standard 3166, 1981. Subsequent components of the package name vary according to an organization's own internal naming conventions. Such conventions might specify that certain directory name components be division, department, project, machine, or login names.	
Classes	Class names should be nouns, in mixed case with the first letter of each internal word capitalized. Try to keep your class names simple and descriptive. Use whole words-avoid acronyms and abbreviations (unless the abbreviation is much more widely used than the long form, such as URL or HTML).	class Raster; class ImageSprite;

Interfaces	Interface names should be capitalized like class names.	interface RasterDelegate; interface Storing;
Methods	Methods should be verbs, in mixed case with the first letter lowercase, with the first letter of each internal word capitalized.	run(); runFast(); getBackground();
Variables	Except for variables, all instance, class, and class constants are in mixed case with a lowercase first letter. Internal words start with capital letters. Variable names should not start with underscore _ or dollar sign \$ characters, even though both are allowed. Variable names should be short yet meaningful. The choice of a variable name should be mnemonic- that is, designed to indicate to the casual observer the intent of its use. One-character variable names should be avoided except for temporary "throwaway" variables. Common names for temporary variables are i, j, k, m, and n for integers; c, d, and e for characters.	int i; char c; float myWidth;
Constants	The names of variables declared class constants and of ANSI constants should be all uppercase with words separated by underscores ("_"). (ANSI constants should be avoided, for ease of debugging.)	static final int MIN_WIDTH = 4; static final int MAX_WIDTH = 999; static final int GET_THE_CPU = 1;

3. Review Process

- > The code review for the *Stock Market Simulator Application* was completed on November 12, 2015 by a review team consisting of *Akhil Kateja*, *Himanshu Anand*, *Adil Quaisar and Adriy Serafyn*.
- A meeting between the review team was held at the beginning of the first sprint of the project, at which time information about the code structure and coding conventions was presented to the team.
- ➤ The code was periodically added to the *Code Collaborator* server in which the programmer of the piece of code acted as the *Author* while the rest of the team acted as the *Reviewer*.
- The *Reviewers* could test the code on the basis of the set coding conventions for the project and also in terms of performance, efficiency and/or logic.
- ➤ The *Reviewers* could give comment(s) corresponding to specific line number(s) or raise a defect(s) depending on the severity of the violation.
- ➤ Based on the comments from the reviewers, the *Author* would incorporate the code changes into his/ her program/ code and resubmit his/ her code to the code collaborator server for a fresh cycle of code review.
- This will continue until, the code review is approved/ passed by all the *Reviewers* after which the *Author* could check in the code into the repository.
- ➤ Before checking any code into the repository, it was mandatory for the *Author* of the code to get his code reviewed and approved from rest of the *Developers/**Reviewers*

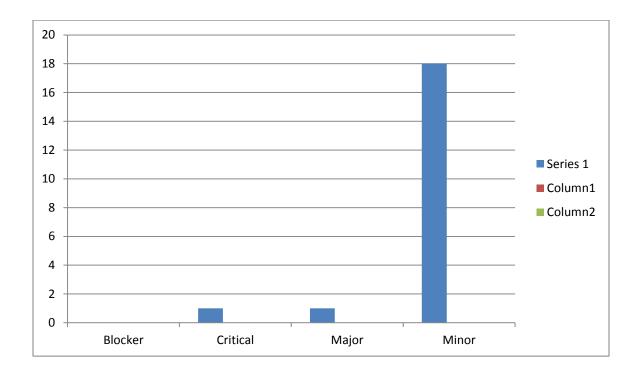
II. Defects checklist

Source File	Line Number	Description	Risk	Module	Status
src/main/java/com/uic/se/stockapp/dbcon/ DatabaseCon	26	Empty Catch Block	Major	Database Connection	Resolved
src/main/java/com/uic/se/stockapp/dbcon/ DatabaseCon	16	Cyclomatic Complexity of 4	Critical	Database Connection	Resolved
src/main/java/com/uic/se/stockapp/dbcon/ DatabaseCon	26	Catching generic exceptions such as NullPointerException, RuntimeException, Exception in try-catch block	Major	Database Connection	Resolved
src/main/java/com/uic/se/stockapp/dbcon/ DatabaseCon.java	112	Local variable 'listOfStocks' could be declared final	Minor	Database Connection	Resolved
src/main/java/com/uic/se/stockapp/dbcon/ DatabaseCon.java	114	Ensure that resources like this ResultSet object are closed after use.	Minor	Database Connection	Resolved
src/main/java/com/uic/se/stockapp/server/r egistration/ SearchStockServlet.java	13	Method argument could be final	Minor	Buy/ Watchlist	Resolved
src/main/java/com/uic/se/stockapp/server/r egistration/ SearchStockServlet.java	17	Local variable could be final	Minor	Buy/Watchlist	Resolved

src/main/java/com/uic/se/stockapp/server/r	11	Each class should declare at	Minor	Buy/Watchlist	Resolved
egistration/ SearchStockServlet.java		least one constructor.			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	11	Denotes whether comments	Minor	Buy/Watchlist	
egistration/ SearchStockServlet.java		are required (or unwanted)			
		for specific language			
		elements.			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	16	Unused Imports	Minor	Login	Resolved
egistration/LoginServlet.java					
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	20	Method argument could be	Minor	Login	Resolved
egistration/LoginServlet.java		final			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	18	Denotes whether comments	Minor	Login	Resolved
egistration/ LoginServlet.java		are required (or unwanted)			
		for specific language			
		elements.			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	18	Each class should declare at	Minor	Login	Resolved
egistration/LoginServlet.java		least one constructor.			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	16	Method argument could be	Minor	Registration	Resolved
egistration/RegistrationServlet.java		final			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	16	Method argument could be	Minor	Update Profile	Resolved
egistration/ UpdateProfileServlet.java		final			
<pre>src/main/java/com/uic/se/stockapp/server/r</pre>	19	Local Variable could be	Minor	WatchList	Resolved
egistration/WatchListServlet.java		final			
<pre>src/main/java/com/uic/se/stockapp/entity/U</pre>	72	Use explicit scoping instead	Minor	Entity	Resolved
ser.java		of the default package level.			
<pre>src/main/java/com/uic/se/stockapp/entity/U</pre>	69	Fields should be declared at	Minor	Entity	Resolved
ser.java		the top of the class, before			
		any method declarations,			
		constructors, initializers or			
		inner classes.			
<pre>src/main/java/com/uic/se/stockapp/entity/U</pre>	74	Method argument could be	Minor	Entity	Resolved
ser.java		final			

III. Findings Summary

This section provides a summary of the findings resulting from this review. The figures below graphically outline the review team's findings by risk level.



IV. Screenshots

This section contains the screenshots of the *Code collaborator* that was used during the code inspection process.

