CSC4350/6350

Spring 2017

A stock trading software. The price is real-time and the exchange is virtual.

Virtual Stock

BATMAN

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# Requirements Traceability Matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entry#** | **Para#** | **Requirements Traceability Matrix** | **Type** | **Use Case Name** |
| 1 | 1 | Batman shall develop a stock trading software with a user-friendly GUI. | SW, HW | Use Case 3 Show\_Main\_Window |
| 2 | 2 | The system shall provide a window for user to register an account in Batman. | SW | Use Case 2 User\_Sign\_Up |
| 3 | 2.1 | The system shall let user know and ask the user to refill the form for registration. | SW | n/a |
| 4 | 3 | The system shall have a window for user to log in. | SW | Use Case 1 User\_Sign\_In |
| 5 | 3.1 | The window shall provide a user name, password input, forgot password button, and sign in and sign up buttons. | SW | n/a |
| 6 | 3.2 | The system shall let user into the interface if the user type the right user information | SW | n/a |
| 7 | 3.3 | If the user failed to log in to the system, the system shall ask the user to refill the password. | SW | n/a |
| 8 | 3.4 | The system shall provide a pin number for quick log in | NTH | n/a |
| 9 | 4 | The system shall have a portfolio interface. | SW | Use Case 4Show\_Portfolio |
| 10 | 4.1 | The system shall show a chart of user’s balance chart of today, total balance value, breaking news of today, stocks that a user keeps and his/her shares, and a watch list. | NTH | n/a |
| 11 | 4.2 | The search button shall also be shown in the corner for user to search a specific stock. | NTH | n/a |
| 12 | 4.3 | The color of the GUI shall be green if the user’s balance goes up and be red if the user’s balance goes down. | NTH | n/a |
| 13 | 5 | The system shall provide a window to show user’s account. | SW | Use Case 5 Show\_Account |
| 14 | 5.1 | The account shall show the total balance, stocks balance, and cash balance. | NTH | n/a |
| 15 | 6 | The system shall give a function for user to transfer money to a bank or to the Batman app. | SW | Use Case 6 Show\_Banking |
| 6 | 6.1 | The linked accounts shall be shown in the bottom. | NTH | n/a |
| 17 | 6.2 | The system shall provide a bank account for user to deposit money. | SW | n/a |
| 18 | 7 | The system shall provide a list of history of user’s trading log. | SW | Use Case 7 Show\_History |
| 19 | 7.1 | The system shall also show the date. | NTH | n/a |
| 20 | 7.2 | The system shall allow the user to see the history from/to a specific date. | NTH | n/a |
| 21 | 8 | The system shall have a setting interface for user to reset pin number and update user information including name, password, email, phone number and address. | SW | Use Case 8 Show\_Settings |
| 22 | 8.1 | The system shall also have a log out button for the user to log out. | SW | n/a |

# Work Structure Document

Group name: **Batman**

|  |  |
| --- | --- |
| **Name** | **Tasks** |
| Mengyuan Zhu | Team Coordinator  Documents handler  Java coder  Problem Statement  Requirements Traceability Matrix  Dictionary  A horizontal prototype of the software to be developed  Use cases and Interaction Diagrams - example as per given in class  Database to be used  Rational  Architecture |
| Sungjae Kim | Finalize code documentation  Java coder  Requirements Traceability Matrix  Gannt Chart  Category Interaction Diagram |
| Sharon Kim | User Guide  Function Point Cost Analysis.  Program tester  Rational |
| Jakub Pietrasik | Rational |
| Hyeun Kang | Object Design |

# Dictionary

**Portfolio:** In finance, a portfolio is a collection of investments held by an investment company, hedge fund, financial institution or individual.

**Broker:** A person who buys or sells an investment for you in exchange for a fee (a commission). Here is Tim’s favorite broker.

**Dividend:** this is a portion of a company’s earnings that is paid to shareholders, or people that own hat company’s stock, on a quarterly or annual basis. Not all company’s do this.

**Exchange:** An exchange is a place in which different investments are traded. The most well-known in the United States are the New York Stock Exchange and the Nasdaq.

**Quote:** Information on a stock’s latest trading price. This is sometimes delayed by 20 minutes unless you are using an actual broker trading platform.

**Volume:** The number of shares of stock traded during a particular time period, normally measured in average daily trading volume.

**Yield:** This usually refers to the measure of the return on an investment that is received from the payment of a dividend. This is determined by dividing the annual dividend amount by the price paid for the stock. If you bought stock XYZ for $40-a-share and it pays a $1.00-per-year dividend, you have a “yield” of 2.5%.

**JDK:** The Java Development Kit (JDK) is an implementation of either one of the Java Platform, Standard Edition; Java Platform, Enterprise Edition or Java Platform, Micro Edition platforms released by Oracle Corporation in the form of a binary product aimed at Java developers on Solaris, Linux, Mac OS X or Windows.

**GUI:** The graphical user interface is a type of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, instead of text-based user interfaces, typed command labels or text navigation.

**HTTP:** The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, and hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web.

**XML:** In computing, Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. The W3C's XML 1.0 Specification and several other related specifications-all of them free open standards—define XML.

# Test Cases

|  |  |
| --- | --- |
| ID | 1 |
| Title | Sign In |
| Pre-conditions | User clicks sing in button |
| Test Steps | 1. User types user name  2. User types password  3. User clicks sign in |
| Expected Results | Account signs in.  If password wrong, let user type again |

|  |  |
| --- | --- |
| ID | 2 |
| Title | Sign Up |
| Pre-conditions | User clicks sing up button |
| Test Steps | 1. User types user name  2. User types password  3. User types password twice for validation  4. User clicks sign up |
| Expected Results | Account signs up.  If passwords are different, let user type again |

|  |  |
| --- | --- |
| ID | 3 |
| Title | Buy stock |
| Pre-conditions | User clicks the buy button |
| Test Steps | 1.User clicks the buy button |
| Expected Results | User purchases stocks.  If not enough balance in the account, notify user of insufficient balance. |

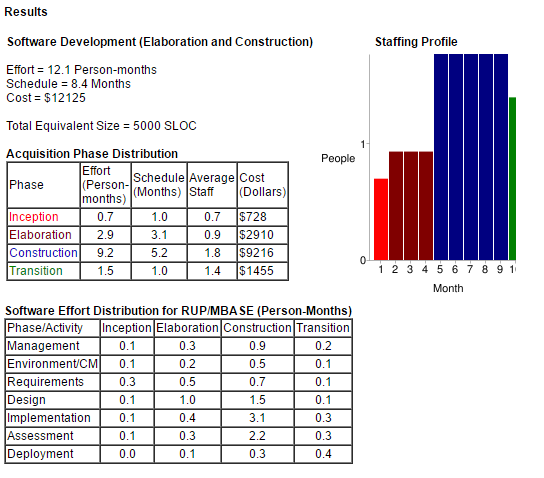
|  |  |
| --- | --- |
| ID | 4 |
| Title | Account Edit |
| Pre-conditions | User changes the account information |
| Test Steps | 1. User types new name.  2. User types new email.  3. User types new password.  4. Click submit button. |
| Expected Results | Account updated.  If new password does not match confirm password, notify the user of unmatched password. |

|  |  |
| --- | --- |
| ID | 5 |
| Title | Search Stock |
| Pre-conditions | User types in the symbol for stock |
| Test Steps | 1. User types the symbol for stock  2. User clicks search button |
| Expected Results | New window with detailed stock information pops up.  If wrong symbol name, notify the user of invalid stock symbol. |

# Rational for Test Cases and Type Used

They are functional test cases. Because we want to make sure user can use it. Here we execute test cases which tells about the functionality of the application and talks about the desired output to be seen.

# Construction Cost Model



# Source Code

https://github.com/MengyuanZhu/SoftwareEngineering

# Gantt Chart