Criterion A: Planning

Problem Statement:

My mom who is an investor in the stock exchange market, and have trouble organizing her portfolio such as keeping track of her transactions, true average stock prices and net profits in her account.

Word Count: 34

Description of Scenario:

With the current exchange market provided application that my mom uses, when she sell shares, it sells the shares that were first bought, thus the price of her least recent shares bought is considered. The profits are calculated and reset monthly, thus over time, the average price of the stocks she owns is not the true average price, thus, making it difficult for her to keep track of her true net profits. For example, if she buys a 100 shares of 'Stock A' three times at 300, 200, and 100 baht each time, and sells 100 shares at 150 baht, the profit calculated will be 150 profit per share as the 300 baht shares are sold. This will not yield her true net profit, which should be -50 baht per share, as at this point, her average price per share is 200 baht. Another problem that arises is her average price per share shall remain 200 baht per share after selling. However, with the current flaws in the system, the average will be lowered to 150 baht per share after selling, as the 300 baht shares are the ones sold (100 shares of 200 and 100 baht each are left).

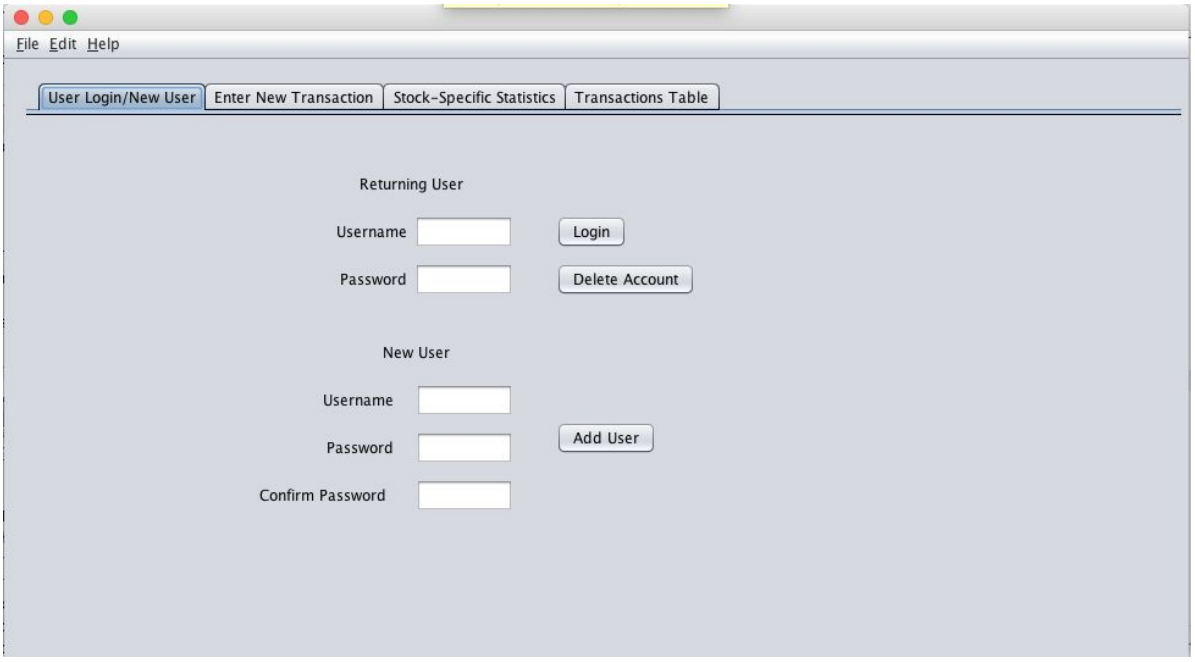
Word Count: 200

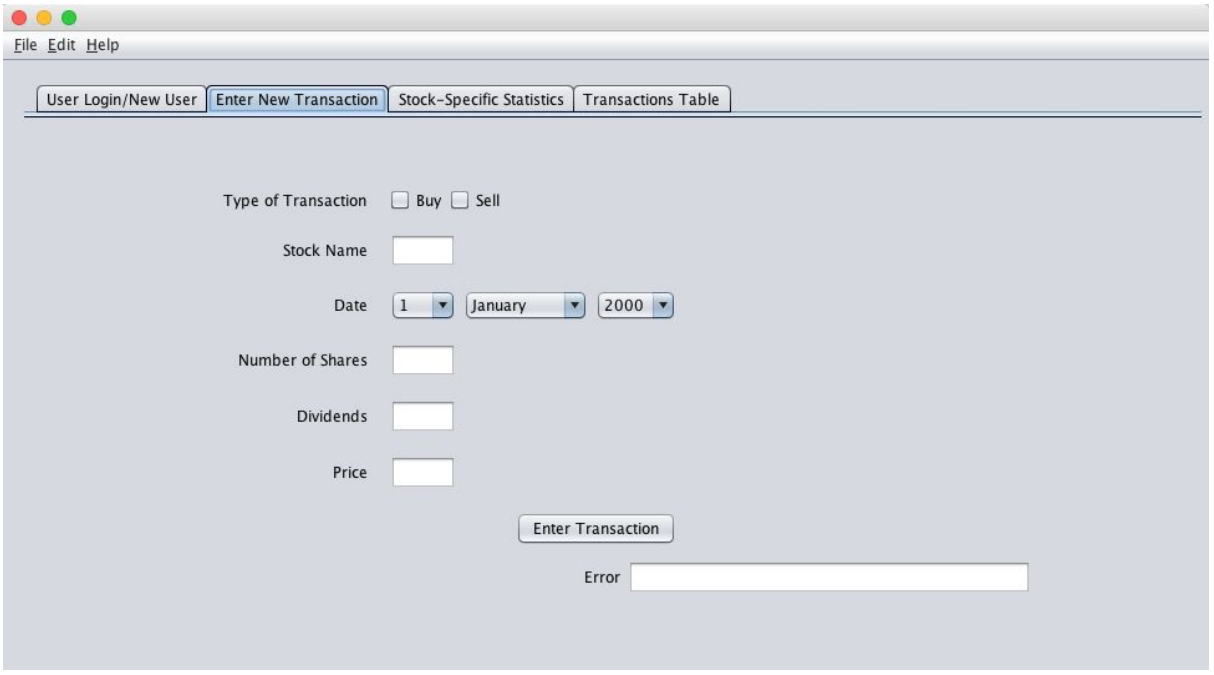
Rationale for the Proposed Product:

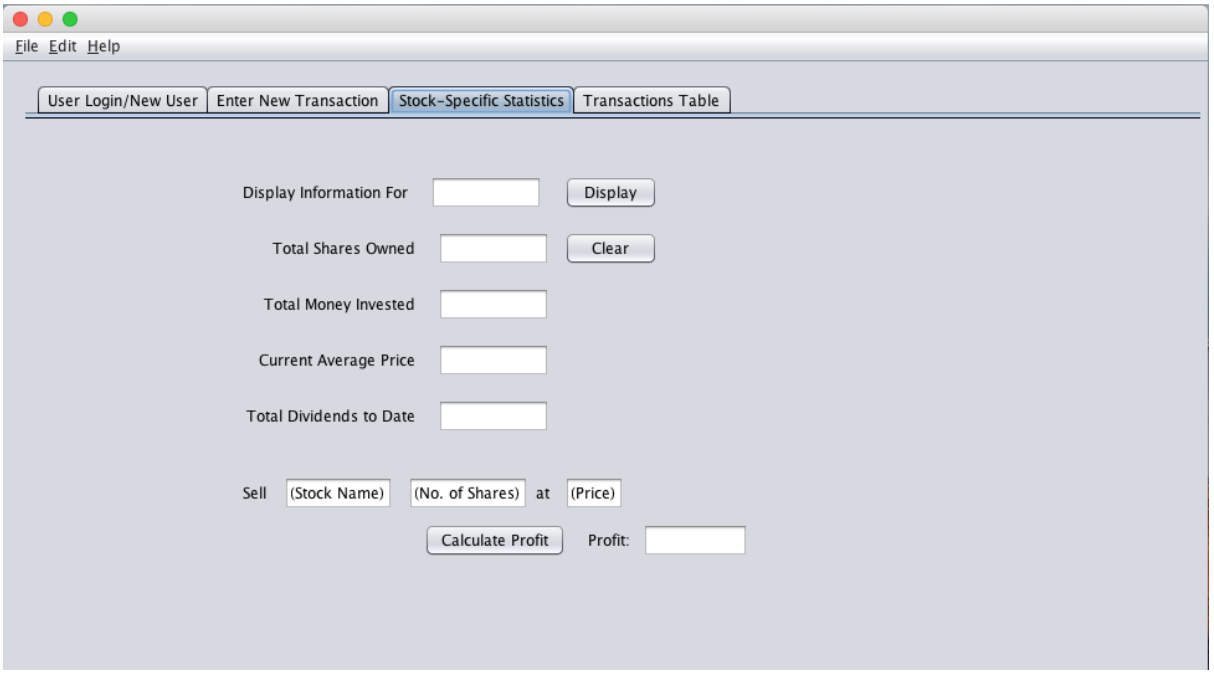
Currently, because existing applications does not meet investors' needs, many, including my mom, turn to record transactions and making calculations on paper. A computer program will be able to store data in a more organized fashion and can be searched and displayed in many ways, according to the users' needs at that time. My client said in our first interview, "When I record my transactions in a notebook, it can only be organized and sorted in one way. For me to organize it differently, I would have to rewrite the transactions in that manner. With a computer program, I hope to be able to sort them quickly in a couple clicks." GUI is appropriate as the user will be able to easily interact with the program and learn how to use it. Java is chosen because classes and instances can be made and is the language I am most comfortable with.

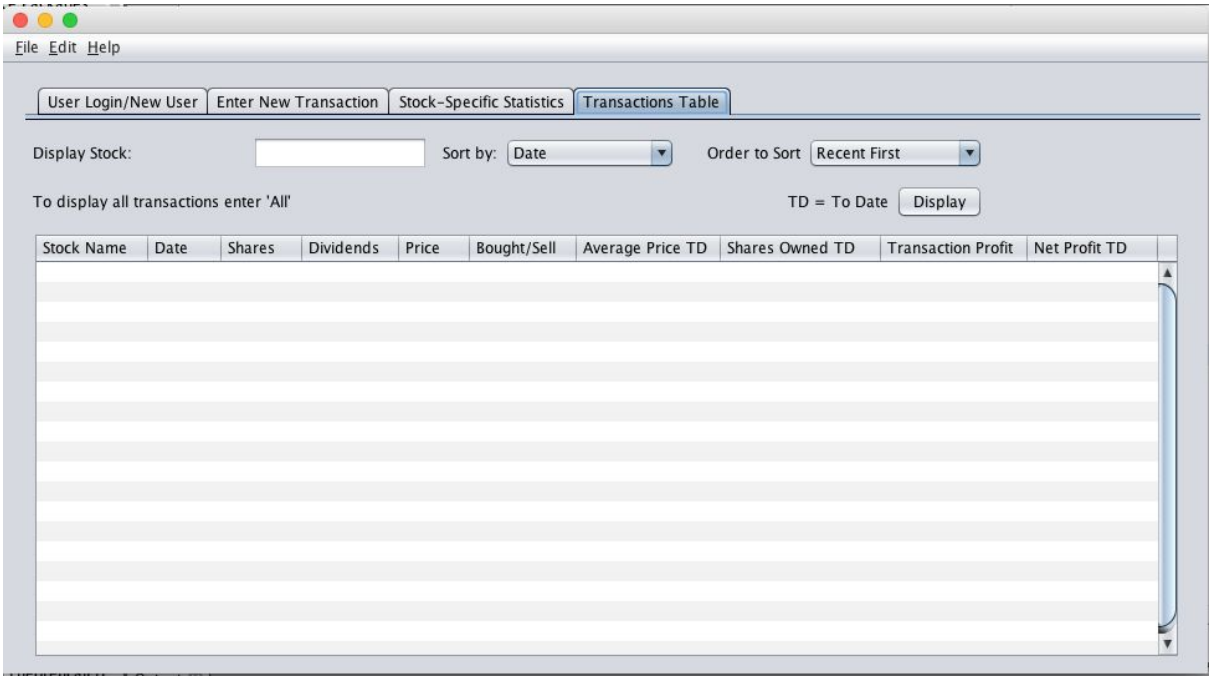
Word Count: 151

NetBeans GUI Product Prototype:






File Edit Help
User Login/New User
Enter New Transaction
Stock-Specific Statistics
Transactions Table
Display Information For
Display
Total Shares Owned
Clear
Total Money Invested
Current Average Price
Total Dividends to Date
Sell
(Stock Name)
(No. of Shares)
at
(Price)
Calculate Profit
Profit:


File Edit Help
User Login/New User
Enter New Transaction
Stock-Specific Statistics
Transactions Table
Display Stock:
Sort by:
Date
Order to Sort
Recent First
To display all transactions enter 'All'
TD = To Date
Display
Stock Name
Date
Shares
Dividends
Price
Bought/Sell
Average Price TD
Shares Owned TD
Transaction Profit
Net Profit TD

Success Criteria For Product:

- Functions (Specific Things Program Does)
    - Add
        - Users (X)
            - Password protected with username and password
        - Transactions (E)
    - Calculate:
        - Current net profit/loss of any stock (E)
        - Total money invested in stock (E)
        - Current average price per share (E)
        - Projected Profit/Loss before selling shares (X)
        - Dividend returns in percentage of stock price (X)
        - Net total dividend returns to date (X)
        - Net profit/loss and transaction order in user selected time period (X)
    - Store (and display upon user use):
        - Calculated values in a table for each stock (E)
        - All transactions of the stock all time, or within selected time frame (E)
    - Display
        - All transactions sorted by
            - Date (E)
            - Price (E)
            - Number of shares in transaction (E)
            - Profit made in transaction (E)
- Usability Features
    - Existing stock combo box updates as transactions of new stocks are entered. (X)
    - All text fields for input are labeled appropriately and clearly. (X)
- Error/Exception Handling Issues
    - When transactions are incorrectly entered, there will be instructions to correct input in the error textfield. (E)
    - When transaction is successfully entered, error textfield will inform user that transaction has been successfully inputted. (X)
    - When user inputs a sale where amount of shares to be sold is greater than shares owned, transaction is invalid and error textfield informs user that sale is not impossible. (E)
    - WHen user enters any data before login, Error message: Login Required
    - When user tries to create account with taken username. Error message: Invalid username, username already exists
    - When user enters different strings to confirm password different to new password textfields when making new user. Error message: New Password and Confirm Password does not match.
    - When user tries to create account without username. Error message: Please enter account username.
    - When user enters wrong username. Error message: Invalid Username, username does not exist.

- When user enters wrong password. Error Message: Incorrect password, please try again.

These are all important criterias for success. Each of them are labeled ‘E’ for essential or ‘X’ for extra. The essential criterias for success are ones that are necessary for the program to function and solve the client’s problem of knowing the current average price of each stock and true net profit made with each sale transaction. The ‘X’ criterias are ones that make the use of program smoother and more convenient, which is extremely important in programming and application construction, but is not necessarily essential for program to function and meet client’s needs.

Word Count: 94 (Items in bulleted list don’t count in word count)

Total Document Word Count: 479

Interview Transcript (Does not count in word count):

Me: Hi! So, I heard that the current application you are using to manage your stock and investments portfolios does not exactly fit your needs. What exactly does the application do?

Client: The application is pretty simple to use, but it is so simple that it cannot display certain information that I want. I key in my stock buying or selling transactions and the application tracks my average price.

Me: So, what exactly is the problem of the current application you are using?

Client: I key in my transactions and they are lost forever. I can no longer retrieve them. The application tracks the prices, but I cannot go back to view all the individual transactions. Also, when I sell my stocks, the new average price is not the true average price of the stock as the stocks sold are of prices from the very first batch of stock I buy rather than at the current average price. It is extremely difficult for me to keep track of my prices for all the stocks on my portfolio and all my transactions.

Me: How about an application where all the transactions can be displayed for each individual stock when called upon? Is that a feature that interests you?

Client: Yes!

Me: And the average price calculated will be calculated from total money invested in stock and number of stocks owned, rather than buying and selling separate batches of stocks, that is correct?

Client: Yes, exactly.

Me: What other features would you like?

Client: Hmm.. I would like to keep track of the net profit for each stock as well as the total dividends I have received from the stock. If that's possible, that would be incredibly helpful.

Me: Of course!

Client: Also, it would be great for each individual stock, I could have different 'ports' or rounds for them. For example, batches that I intend to keep long term and another where I frequently buy or sell. Or when I have sold all of the stocks I own and want to start buying it again, I would like the second go round to be another set of transactions.

Me: So, kind of like it's almost a new stock, simply with a new name?

Client: Yeah1 Will that be possible?

Me: Yes, of course! I'll have a prototype ready for you in two days.