

Project Proposal – MIST 4600 Final Group Project

Team Member Names: Joseph Enck, Brayden Keller, Robbie Backe, Charlie Matthews

Lecture Time: 1:50 pm Date: 03/12/25

1. Describe the business application you have chosen.

A stock management application that lets users manage their shares in different stocks in the market. The user can deposit and withdraw money into the stock account from their bank, and they can also buy and sell different stocks on the market. The user has the ability to “check” the value of a stock, in which the value is randomly changed based on an algorithm. There are a few default stocks already in the program which can be accessed by searching for the ticker symbol (ex: APPL for Apple).

2. List the menu options that the business application will include.

STOCK MENU:

A - add new stock to market

B - buy/sell stocks

C - check specific stock

D - deposit/withdraw money

E - update stock market

F - market summary

Q - quit

3. Develop at least two end-to-end scenarios that demonstrate the functionality of your system.

Scenario 1A [Depositing Money & Purchasing a Stock]: Stock Market Investment System

A user wants to invest in a stock using their stock management application. Before making a purchase, the user must ensure they have sufficient funds in their account. To complete this, the program must first check the user's current account balance. If the user does not have enough funds, they must deposit money from their linked bank account.

To process this request, the program should first prompt the user to enter a deposit amount. Once confirmed, the system will update the user's stock account balance. After the deposit is successful, the user can then proceed with purchasing a stock.

To buy a stock, the user searches for a company by entering its ticker symbol (e.g., "APPL" for Apple). The system will retrieve the latest stock price using a built-in algorithm that fluctuates the stock's value based on market trends. If the user has enough funds, the

system will deduct the total cost from their account balance and update their stock holdings to reflect the newly purchased shares.

Finally, the system displays a confirmation message showing the number of shares bought, the price per share, and the remaining account balance. If the user does not have enough funds, the system notifies them and suggests making another deposit.

Scenario 2: Market Summary and Update Stock Market

The user wants to check how their stock prices are doing in the market. The program will print out a summary of the user's stocks, the user's total money in the account, and 3 stocks that had the biggest changes in the last period. Printing the user's stocks will show the stock price, the amount invested, and the percent change in the stock. The summary will print the total the money the user has invested and the percent change in money in the last period. The 3 stocks with the biggest changes will be shown along with the percent changes and the stock price.

The user has to actually update the stock market in order to see change among their stocks and potential growth. When the user updates the stock market, all of the stocks in the market will either decrease or increase by a random number. Certain stocks will have "less risk," in which the random number generated is from a smaller range. After the stock market is updated, the market summary will print again for the user.