<u>Use Case Description</u>

Register
1. The user enters a username
2. The user enters a password. Password must be at least 8 characters long and contain at least 1 number
3. If the password matches the criteria, the user enters the password again to confirm it
4. If both passwords match, a new user account is created

AF-S3: If the password is invalid
1. Display message: "Password must be at least 8 characters long and contain at least 1 number. Please enter a new password"
2. Return to step 2

AF-S4: If the passwords do not match
1. Display message: "Passwords do not match. Please try again"
2. Return to step 3

Login
1. The user enters their username
2. The user enters their password
3. If the username and password is correct, the user successfully logs into the user home

AF-S3: If the username or password or both are not correct
1. Display message: "Invalid username and/or password. Please try again"
2. Return to step 1

Edit Transaction History
1. The user selects either "Log Stock Purchase" or "Log Stock Sale"
2. The user inputs stock details: Stock Acronym, Quantity, Purchase/Sale Price, and Date
3. The user can repeat steps 2 and 3 as needed

Receive Notifications
1. The user is given the option to receive real-time notifications from the application
2. If the user selects the "Allow notifications" option, the system will save the user's preference.
3. Notifications can be triggered by various events
4. Notifications are delivered in real-time to keep users informed promptly
5. The user can interact with the notification by clicking on them to view more details or take action

AF-S2
1. The system saves the user's preference to not receive notifications.
2. The user can update their preference in the profile settings.

Filter Stock Lists by Attribute
1. The user accesses the stock list where they can view available stocks
2. The user selects the filter criteria or attributes they want to apply to the stock list.
3. Once the user selects their desired filter criteria, they click the "Apply Filters" button to initiate the filtering process.
4. The app applies the selected filters to the stock list and only stocks that meet the chosen criteria are displayed to the user in the filtered results.
5. The user can click on individual stocks in the filtered list to access more detailed information including charts, financial data, news and historical performance.
6. The user can refine their filters to further narrow down their selection.
7. The user has the option to clear applied filters and return to the unfiltered stock list.

View Stock Charts
1. The user enters the stock acronym or name they want to view
2. The user selects a specific stock from the search results
3. The user specifies the desired timeframe for the chart: "1 Day", "1 Week", "1 Month", "6 Months", "1 Year"
4. The system generates and displays the respective stock chart.

View Optimised Portfolio
1. The user accesses the "My Optimised Portfolio" tab
2. The system fetches parameters set by the user: user preference, risk tolerance, investment goal
3. The system retrieves top stocks using Sentiment Analysis
4. The system retrieves historical data for the specified stocks from the Yahoo Finance API
5. The system calculates the Sharpe ratio from the data collected and backtests the portfolio
6. The system displays a list of stocks to purchase or sell and their respective recommended amounts
7. If the user selects "Accept New Portfolio", the corresponding transactions are automatically logged into their transaction history

AF-S6: The user selects "Reject New Portfolio"
1. Display "Please go to Edit Transaction History if you have made any new transactions"

View Transaction History
1. The user selects "Transaction History"
2. The user selects the filter criteria or attributes they want to apply to the stock list.
3. Once the user selects their desired filter criteria, they click the "Apply Filters" button to initiate the filtering process.
4. The system displays a list of the user's past transactions, sorted by date. Details like date, quantity and purchase/sale price are listed.