**CSE 6324 - Agile Fall 2024**

**Team 3**

**Project Name:** Charles – A Technical Analysis Charting Assistant

**Test Case Name: Registration**

**Test Case Id**: CSE6324/FALL2024/Team3/Registration

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Press the Register button and enter an email, username, password, first name, and last name. (ensure valid test credentials are created and provided to testers). | The system authenticates successfully, and the user is granted access to the application, redirecting to the login screen. |  |
| TC2 | Press the Register button and enter an invalid formatted email. | The system should deny registration and display an error message like “Invalid email format.” The user should remain on the registration page. |  |
| TC3 | Press the Register button and enter a different password for the “confirm password” entry than you did for the “password” entry | The system should prevent registration and display an error message like “The passwords don’t match.” The user remains on the registration page. |  |
| TC4 | Enter a password that does not meet the requirements of the system. | The system should prevent registration and display an error message that the user did not meet the password specifications. The user remains on the registration page. |  |
| TC5 | Press the Register button and leave a field in the registration page blank | The system should prevent registration and display an error message that the user did not input all the data. The user remains on the registration page |  |

**Test Case Name: Login**

**Test Case Id**: CSE6324/FALL2024/Team3/Login

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Press the login button and enter a valid user ID and password (ensure valid test credentials are created and provided to testers). | The system authenticates successfully, and the user is granted access to the application, redirecting to the homepage/dashboard. |  |
| TC2 | Press the login button and enter an incorrect user ID or password (use a deliberately incorrect password or non-existent user ID). | The system should deny access and display an error message like “Invalid username or password.” The user should remain on the login page. |  |
| TC3 | Press the login button without entering either a user ID or password, leaving one or both fields blank. | The system should prevent login and display an error message prompting the user to fill in the missing information. The user remains on the login page. |  |
| TC4 | Enter a password, then toggle the “Show Password” option to make the password visible, and toggle it again to hide the password. | The password is displayed in plain text when “Show Password” is toggled on, and masked (hidden) when toggled off, with no other changes to the page. |  |
| TC5 | Log in with valid credentials and remain inactive for the duration of the session timeout setting (e.g., 15 minutes). Afterward, attempt to interact with the application. | The system should log the user out automatically due to inactivity. The user is prompted to log in again, and all previous session data is cleared. |  |

**Test Case Name: Subscribe**

**Test Case Id**: CSE6324/FALL2024/Team3/Subscribe

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Enter valid credit card details, including a real credit card number format, expiration date, and CVV (use test card information if possible). | The payment is processed successfully, the subscription is activated, and the user receives a confirmation message. |  |
| TC2 | Enter an incorrect or invalid card number (e.g., one that is missing digits or contains letters). | The system should prevent submission and display an error message like “Invalid card number,” without processing payment. The user remains on the payment page. |  |
| TC3 | Enter a valid card number and expiration date but enter an incorrect CVV (e.g., fewer digits than required or a non-numeric CVV). | The system should display an error message, such as “Invalid CVV,” and prevent payment from processing, keeping the user on the payment page. |  |
| TC4 | Login as a user that is **not** subscribed to Charles. | The system should redirect the user to the Subscribe page. |  |
| TC5 | Login as a user that is subscribed to Charles. | The system should redirect the user to the Home page. |  |

**Test Case Name:** **See Stock Chart**

**Test Case Id**: CSE6324/FALL2024/Team3/See-Stock-Chart

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Instruct Charles to create an image of a stock chart for a valid stock ticker (e.g., “AAPL” for Apple Inc.). | Charles generates a clear image of the Apple stock chart, showing relevant data such as time range and price fluctuations. |  |
| TC2 | Request a stock chart for an invalid or unknown stock ticker (e.g., “XXXX”). | Charles responds with an error message like “Invalid ticker symbol. Please try again with a valid ticker,” and no chart image is generated. |  |
| TC3 | Ask Charles for a stock chart using the full stock name instead of the ticker (e.g., “Microsoft”). | Charles identifies the correct ticker symbol (MSFT) and generates a stock chart image for Microsoft. |  |
| TC4 | Request a stock chart from Charles without specifying a time range. | Charles generates a default stock chart (e.g., daily or one-month view) and provides an option to specify a custom time range for more precise data. |  |
| TC5 | Ask Charles to create a chart for a non-stock asset, like a cryptocurrency ticker (e.g., “BTC”). | Charles either generates a crypto chart (if supported) or responds with a message like “Currently, I only support stock tickers. Please try with a valid stock name or ticker.” |  |

**Test Case Name: Un-Subscribe**

**Test Case Id**: CSE6324/FALL2024/Team3/Un-Subscribe

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Click the unsubscribe button and confirm the action when prompted. | The user’s subscription is successfully canceled, a confirmation message is displayed (e.g., “You have successfully unsubscribed”) |  |
| TC2 | Attempt to unsubscribe from the service when the user does not have an active subscription. | The user shouldn’t be able to find or see the unsubscribe button |  |
| TC3 | Click the unsubscribe button, then cancel the unsubscribe action when the confirmation prompt appears. | The unsubscribe action is not completed, and the user remains subscribed. |  |
| TC4 | Navigate to the unsubscribe page to begin intent to unsubscribe | The system should display the unsubscribe page and not do any unsubscribe action to the user without any input |  |
| TC5 | Unsubscribe from the service, then attempt to access previously available subscription-only content. | The system should prevent access to subscription-only content. |  |

**Test Case Name:** **Change Stock Chart Time Frame**

**Test Case Id**: CSE6324/FALL2024/Team3/Change-Stock-Chart-Time-Frame

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Ask Charles to change the time frame on an existing stock chart from day to week | Charles updates the stock chart to display week view, retaining any existing indicators (e.g., Moving Average, MACD) with settings adjusted to the new time frame if necessary. |  |
| TC2 | Ask Charles to switch the time frame to an invalid or unsupported time range like decade | Charles should not produce a chart with decade timeframe with the stock ticker |  |
| TC3 | Ask Charles to change the time frame from week back to day | Charles updates the stock chart to display day view, retaining any existing indicators (e.g., Moving Average, MACD) with settings adjusted to the new time frame if necessary. |  |
| TC4 | Ask Charles to change from a non-month timeframe to month | Charles updates the stock chart to display month view, retaining any existing indicators (e.g., Moving Average, MACD) with settings adjusted to the new time frame if necessary. |  |
| TC5 | Ask Charles for the same timespan | Charles updates the stock chart to display the same timespan view, retaining any existing indicators (e.g., Moving Average, MACD) |  |

**Test Case Name: Add Indicators to Stock Chart**

**Test Case Id**: CSE6324/FALL2024/Team3/Add-Indicators-to-Stock-Chart

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Instruct Charles to create a stock chart for a valid ticker (e.g., “AAPL”) and add the MACD indicator. | Charles generates a stock chart image of Apple with the MACD indicator displayed below or overlaid on the chart, including signal line and histogram if applicable. |  |
| TC2 | Request Charles to add an indicator that doesn’t exist or is misspelled (e.g., “MCD” instead of “MACD”). | Charles will not display the graph with “MCD” because this indicator doesn’ |  |
| TC3 | Ask Charles to create charts with multiple indicators, such as MACD, RSI, and Moving Average, on a valid stock (e.g., “GOOGL with MACD, RSI and SMA”). | Charles generates a stock chart of Google with all specified indicators (MACD, RSI, and Moving Average) displayed clearly, distinguishing each indicator appropriately. |  |
| TC4 | Request a stock chart with the MACD indicator without specifying a time range (e.g., “Show AAPL with MACD”). | Charles generates a stock chart of Apple with MACD, using a default time range (e.g., one month) and displaying MACD based on that range. |  |
| TC5 | Instruct Charles to create a stock chart with the EMA indicator and then in a separate request tell it to “Add VROC” and then “Add OBV” | Charles recognizes that additional indicators have been requested to be added and Charles will create charts for each |  |

**Test Case Name: Test Trial Before Paying**

**Test Case Id**: CSE6324/FALL2024/Team3/Test-Trial-Before-Paying

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Prompt Charles to Subscribe and then Start a Free Trial | Charles successfully starts the user to a free trial and gives them 3 free requests. The user will be redirected to the stocks page |  |
| TC2 | Request Charles to display a stock (e.g., Show me Palantir with Candlestick”) | Charles successfully displays the stock with a candlestick chart |  |
| TC3 | Make 2 more requests to display a stock (e.g., Add MACD and Add RSI”) | Charles successfully displays the stock with candlestick, MACD, and RSI charts |  |
| TC4 | Attempt to make a fourth request after using all three trial requests (e.g., “Show me a chart for MSFT”). | Charles responds with a message indicating that the trial limit has been reached and invites the user to subscribe for continued access to the service. |  |
| TC5 | After each request (first, second, and third), check if Charles provides feedback on the remaining requests (e.g., “You have 2 requests remaining”). | After each request, Charles provides accurate updates on the number of remaining requests (e.g., “You have 2 requests remaining,” then “You have 1 request remaining” after the second request). |  |

**Test Case Name: See News for Stock**

**Test Case Id**: CSE6324/FALL2024/Team3/See-News-and-Financials-for-Stock

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Instruct Charles to show news for a valid stock ticker (e.g., “Show news for AAPL”). | Charles retrieves and displays a list of links to the latest news articles related to Apple, ensuring that the links are clickable and lead to the respective news sources. |  |
| TC2 | Instruct Charles to remove news for a valid stock ticker (e.g., “Remove news for AAPL”). | Charles removes the news for the requested stock |  |
| TC3 | Instruct Charles to show financials for a valid stock ticker (e.g., “Show financials for AAPL”). | Charles responds with the following financials: Balance Sheet, Income Statement, and Cash Flow Statement |  |
| TC4 | Instruct Charles to remove financials for a valid stock ticker (e.g., “Remove financials for AAPL”). | Charles removes the financials for the requested stock |  |
| TC5 | Request both news and financials for a given stock (e.g., “Show financials and news for AAPL”). | Charles displays both the news and financials for the given stock |  |

**Test Case Name: Use Charles on the Internet**

**Test Case Id**: CSE6324/FALL2024/Team3/Use-Charles-on-the-Internet

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Open the URL to Charles on a non-mobile device | The interface appears on the web browser that is clearly Charles and there is connectivity |  |
| TC2 | Access Charles securely on a browser | The web browser does not throw any SSL error or certificate issues |  |
| TC3 | Simulate multiple users accessing the Charles web interface simultaneously to perform various queries. | Charles handles concurrent requests efficiently without significant delays or performance degradation, providing accurate responses to each user. |  |
| TC4 | Access the Charles web interface on a mobile device. | The interface adapts to the mobile screen size, maintaining usability and functionality, allowing the user to query stock information easily. |  |
| TC5 | Refreshing the URL of Charles | The user should still land on the Charles app |  |

**Test Case Name:** **Change Indicators on Stock Chart**

**Test Case Id**: CSE6324/FALL2024/Team3/Change-Indicators-on-Stock-Chart

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Ask Charles to replace the existing indicator (e.g., MACD) on a stock chart for “AAPL” with a new indicator (e.g., “Change to RSI”). | Charles removes the MACD indicator and adds the RSI indicator to the Apple stock chart. The updated chart image with RSI is generated and displayed. |  |
| TC2 | Instruct Charles to add a new indicator (e.g., Moving Average) to an existing stock chart that already includes MACD (e.g., “Add Moving Average to this chart”). | Charles adds the Moving Average indicator to the chart while retaining the existing MACD indicator, resulting in a chart that displays both MACD and Moving Average. |  |
| TC3 | Request Charles to remove a specific indicator from a stock chart that has multiple indicators (e.g., “Remove RSI from this chart”). | Charles removes the RSI indicator from the chart, leaving the remaining indicators (if any) intact. The updated chart image without RSI is generated. |  |
| TC4 | Instruct Charles to clear all indicators from the current stock chart (e.g., “Remove all indicators from this chart”). | Charles removes all indicators from the chart, leaving only the stock price data. The updated chart with no indicators is generated and displayed. |  |
| TC5 | Provide an invalid command to change indicators, such as an unsupported indicator name or ambiguous request (e.g., “Switch to XYZ indicator”). | Charles responds with an error message like “Invalid indicator name. Please try with a supported indicator,” and no chart is generated. |  |

**Test Case Name:** **Change Stock with Previously Given Indicators**

**Test Case Id**: CSE6324/FALL2024/Team3/Change-Stock-with-Previously-Given-Indicators

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Ask Charles to switch the stock on an existing chart (e.g., from "AAPL" to "GOOGL") while retaining the current indicators (e.g., Moving Average and MACD). | Charles generates a new stock chart for Google with the Moving Average and MACD indicators applied, matching the indicator settings used on the Apple chart. |  |
| TC2 | Ask Charles to change the stock on a chart with multiple indicators (e.g., MACD, RSI, and Moving Average) from “TSLA” to “MSFT.” | Charles generates a stock chart for Microsoft with MACD, RSI, and Moving Average indicators applied, reflecting the same settings as on the Tesla chart. |  |
| TC3 | Ask Charles to switch the stock to an invalid or unknown ticker (e.g., “XXXX”) while retaining the indicators. | Charles responds with an error message like “Invalid ticker symbol. Please try again with a valid ticker,” and the chart is not generated. |  |
| TC4 | Ask Charles to change the stock symbol on a chart without explicitly stating to keep the existing indicators (e.g., “Switch to GOOG”). | Charles assumes the request is to retain previous indicators and generates a new chart for Google, keeping any existing indicators in the same configuration. |  |
| TC5 | Instruct Charles to change the stock, add and remove multiple indicators all in one command. | Charles adds and removes the desired stock charts for the instructed stock ticker |  |

**Test Case Name: Charles Will Friendly Respond to Requests**

**Test Case Id**: CSE6324/FALL2024/Team3/Charles-will-friendly-respond-to-requests

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| **Test Case No.** | **Test Case Description** | **Expected results** | **Outcome**  **Pass, Fail, Other (comments)** |
| TC1 | Open the stock page with chat feature with Charles. | Charles responds with a friendly greeting. |  |
| TC2 | Ask Charles for a plain stock chart. | Charles responds with a message acknowledging your request. |  |
| TC3 | Ask Charles to add an indicator to a chart. | Charles responds with a message acknowledging your request. |  |
| TC4 | Ask Charles to show you news about the given stock. | Charles responds with a friendly message acknowledging your request. |  |
| TC5 | Ask Charles to add an indicator and change the timeframe. | Charles responds with a friendly message acknowledging all of the changes. |  |