Software Test Report

for

Stocks Trend prediction

Version 1.0

Prepared by

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| Hassan Ahmed Khan | 201907008 | hassanahmedkhan2018@gmail.com |

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| Internal: | Engr. Kashif Jamil |
| External: | - |
| Discipline: | BS – Software Engineering |

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5. **Introduction**:

This report discusses the testing of this project, including unit testing, system testing etc.

1. **Unit Testing**
   1. **Prediction Module**

**Table 1. Using Test Cases for ‘Prediction’ Module**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Test Execution Steps** | **Expected Results** | **Results (Pass/Fail)** |
| Search tab navigation | 1. Click on the tab menu which contains a prediction shape icon and stated “Predictions”. | The view navigates to Predictions tab. | Pass |
| Loading the page with default setting | 1. Default set date & time. 2. Default stock ticker (AAPL). | Returns all columns with plots including the predictions. | Pass |
| Search stock with stock symbol (stock name) in capital letter. | 1. Enter stock ticker. 2. Update Start & End Date. | Stocks Predictions shown in the tab with different analyzing the dataset. | Pass |
| Moving Average analysis for 10, 50 & 100 days + Daily return percentage. | 1. Enter stock ticker (the previous one, only one time) 2. Update Start & End Date (the previous one, only one time). | Returns the data in plot figure for “MA for 10 days” etc. | Pass |
| Training the Model | 1. Getting the input from previous setting the date and ticker | Returns the TRAIN & VAL Loss, TRAIN - MSE & VAL - MSE, TRAIN - MAE & VAL - MAE in figure plot. | Pass |
| Testing the Model | 1. Getting the input from previous setting the date and ticker | EDA for visualizing the collecting data | Pass |
| EDA for Heat Maps | 1. Getting the input from previous setting the date and ticker | Displaying the relationship between the features of the data (During COVID-19) & (Before COVID-19). | Pass |

* 1. **Stocks Info. Module**

**Table 2. Using Test Cases for ‘Stocks Info.’ Module**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Test Execution Steps** | **Expected Results** | **Results (Pass/Fail)** |
| Stocks Info. tab navigation | 1. Click on the tab menu which contains a magnifying glass shape icon and stated “Stocks Info.” | The view navigates to Stocks Info tab. | Pass |
| Search stock with stock symbol (stock name) in capital letter. | 1. Type in specific stock name in capital letter. 2. Click “GO” button to search the stocks. | Searched stocks related to the stock name shown in the following order with Daily closing price, last closing price, daily volume for searched stocks. | Pass |
| Search stock with stock symbol (stock name) in small letter. | 1. Type in specific stock name in capital letter. 2. Click “GO” button to search the stocks. | Searched stocks related to the stock name shown in the following order with Daily closing price, last closing price, daily volume for searched stocks | Pass |
| Stock Actions | 1. Place the check mark in the stock action checkbox. | Displaying the results for stocks actions about searched stocks. | Pass |
| Institutional Shareholders | 1. Place the check mark in the Institutional Shareholders checkbox. | Displaying the results for Institutional shareholders about searched stocks. | Pass |
| Balance Sheet | 1. Place the check mark in the Balance Sheet checkbox. | Displaying the results for Balance Sheet about searched stocks. | Pass |
| Cash Flow | 1. Place the check mark in the Cash Flow checkbox. | Displaying the results for Cash Flow about searched stocks. | Pass |

* 1. **Time Series Module**

***Table 3. Using Test Cases for ‘Time Series.’ Module***

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Test Execution Steps** | **Expected Results** | **Results (Pass/Fail)** |
| Time series tab navigation | 1. Click on the tab menu which contains a information shape icon and stated “Time Series” | The view navigates to Time Series tab. | Pass |
| Search stock with stock symbol (stock name) in capital letter. | 1. Type in specific stock name in capital letter. | Searched stocks related to the stock name shown in the search section | Pass |
| Search stock with stock symbol (stock name) in small letter. | 1. Type in specific stock name in capital letter. | Searched stocks related to the stock name shown in the search section | Pass |
| Start Date | 1. Tap on text input widget named as start date. | Displaying the calendar for user to select start date | Pass |
| End Date | 1. Tap on text input widget named as end date. | Displaying the calendar for user to select end date | Pass |
| Number of Days | 1. Enter the number of days you want to predict. | Displaying the days that user enters | Pass |
| Submit Button | 1. Click “Submit” button in order to get the result. | Displaying the predicted results for searched ticker. | Pass |

* 1. **Stocks News Module**

***Table 4. Using Test Cases for ‘Stocks News’ Module***

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Test Execution Steps** | **Expected Results** | **Results (Pass/Fail)** |
| Stocks News tab navigation | 1. Click on the tab menu which contains news shape icon and stated “Stocks News” | The view navigates to Stocks News tab. | Pass |
| Search stock with stock symbol (stock name) in capital letter. | 1. Type in specific stock name in capital letter. 2. Click “Get News!” button to get the news about Stocks. | Searched stocks related to the stock name shown in the following order with news | Pass |
| Search Stocks without keyword | 1. Leave empty for the field 2. Click “Get News!” button to get the news. | “No news for this stock” should be displayed. | Pass |
| Search stock with stock symbol (stock name) in small letter. | 1. Type in specific stock name in small letter. 2. Click “Get News!” button to get the news about Stocks. | Searched stocks related to the stock name shown in the following order with news | Pass |

1. **System Testing**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Test Execution Steps** | **Expected Results** | **Results (Pass/Fail)** |
| Load the page to get predictions. | 1. Click on the tab menu which contains a prediction shape icon and stated “Predictions”. 2. Click on the tab menu which contains a magnifying glass shape icon and stated “Stocks Info.” 3. Select the "Time Series" tab from the tab menu that has an information-shape icon. 4. Click on the tab menu which contains a news shape icon and stated “Stocks News”. 5. Type in specific stock name in capital or small letter. | The view navigates to the user's preferred tab to obtain predictions, stock information, time series analysis, and stock news, among other features. | Pass |

1. **Verification:**

I used the unit testing and system testing technique, which is a very common testing method, to test a system to determine if it is functioning properly or not. A single unit or component of the software is tested in a unit test case. Here, every unit or component is tested, and I develop a unique test case for every element. System testing is to test the system that has all units fully integrated. System testing can verify the functionality and flow of the whole system. That is the reason I selected those test cases. All test results are accurate, demonstrating that the web application compiled with the excellent design.