**Andrew Trail – Crypto Tracker Testing**

**Test Plan**

I will be testing my software using various methodologies and techniques, both black and white box.

Throughout the development process I have done a great deal of both Unit Testing and Interface Testing in order to get the functions working correctly on their own and with each other. Details of some of the bugs I’ve come across and their workarounds are in the included “Progress Log” file.

I will be redoing these two methods with a set of pre-determined results. Including an expected response and actual response given by the program.

Once the white-box testing is complete I will begin black box testing. Here I will run the software .exe and re-create the tests done as white box tests. I will also perform system testing, compliance testing and UI testing.

I will have a separate set of test data for the system testing and will record appropriately.

Compliance will be done simply to check both the functional and non-functional requirements set out in the Analysis stage of development.

**Unit Testing**

Here I will go through each of the individual functions and test Normal, Extreme and Exceptional data where possible

**“createTable” function**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test/Data** | **Expected Output** | **Actual Output** | **Comments** |
| Normal name: “test1” | Database created with table and blank records for 3 coins. Displayed on main form | Database created with table and blank records for 3 coins.  Displayed on main form | As expected |
| Normal name: “test2” | Database created with table and blank records for 3 coins.  Displayed on main form | Database created with table and blank records for 3 coins.  Displayed on main form | As expected |
| No name: “” | No database created until a name is entered. | No database created until a name is entered. | As expected – Could add error message showing accepted input |
| Invalid name: “ “ | No database created until a name is entered. | No database created until a name is entered. | As expected – Could add error message showing input as expected |

**“insert” function**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test/Data** | **Expected Output** | **Actual Output** | **Comments** |
| Add 1 BTC to DB file | “Holdings” and “Holdings Value” row in table updated to show + 1BTC change. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show + 1BTC change. Label at top left of form updated to display total value | As expected |
| Add 5LTC to DB file | “Holdings” and “Holdings Value” row in table updated to show + 5LTC change. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show + 5LTC change. Label at top left of form updated to display total value | As expected |
| Add 10VTC to DB file | “Holdings” and “Holdings Value” row in table updated to show + 10VTC change. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show + 10VTC change. Label at top left of form updated to display total value | As expected |
| Add 0BTC to DB file | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Add 0LTC to DB file | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Add 0VTC to DB file | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Add -1BTC to DB | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Add -1LTC to DB | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Add -1 VTC to DB | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Add 1.5 BTC to DB | “Holdings” and “Holdings Value” row in table updated to show a + 1.5 BTC change. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show a + 1.5 BTC change. Label at top left of form updated to display total value | As expected |
| Add 2.2 LTC to DB | “Holdings” and “Holdings Value” row in table updated to show a + 2.2 LTC change. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show a + 2.2 LTC change. Label at top left of form updated to display total value | As expected |
| Add 6.935 VTC to DB | “Holdings” and “Holdings Value” row in table updated to show a + 6.935 VTC change. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show a + 6.935 VTC change. Label at top left of form updated to display total value | As expected |
| Non numeric entered | Nothing should be entered in box | Nothing is entered in box | As expected |
| Nothing entered | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |

**“edit” function**

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| --- | --- | --- | --- |
| **Test/Data** | **Expected Output** | **Actual Output** | **Comments** |
| Edit BTC holdings to 11 | “Holdings” and “Holdings Value” row in table updated to show 11BTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 11BTC. Label at top left of form updated to display total value | As expected |
| Edit LTC holdings to 3 | “Holdings” and “Holdings Value” row in table updated to show 3LTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 3LTC. Label at top left of form updated to display total value | As expected |
| Edit VTC holdings to 69 | “Holdings” and “Holdings Value” row in table updated to show 69VTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 69VTC. Label at top left of form updated to display total value | As expected |
| Edit BTC holdings to 0 | “Holdings” and “Holdings Value” row in table updated to show 0 BTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 0 BTC. Label at top left of form updated to display total value | As expected |
| Edit LTC holdings to 0 | “Holdings” and “Holdings Value” row in table updated to show 0 LTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 0 LTC. Label at top left of form updated to display total value | As expected |
| Edit VTC holdings to 0 | “Holdings” and “Holdings Value” row in table updated to show 0 VTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 0 VTC. Label at top left of form updated to display total value | As expected |
| Edit BTC holdings to -1 | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Edit LTC holdings to -69 | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Edit VTC holdings to -5 | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |
| Edit BTC holdings to 1.95678 | “Holdings” and “Holdings Value” row in table updated to show 1.95678 BTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 1.95678 BTC. Label at top left of form updated to display total value | As expected |
| Edit LTC holdings to 3.14159 | “Holdings” and “Holdings Value” row in table updated to show 3.14159 LTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 3.14159 LTC. Label at top left of form updated to display total value | As expected |
| Edit VTC holdings to 15.2222 | “Holdings” and “Holdings Value” row in table updated to show 15.2222 VTC. Label at top left of form updated to display total value | “Holdings” and “Holdings Value” row in table updated to show 15.2222 VTC. Label at top left of form updated to display total value | As expected |
| Non numeric entered | Nothing should be entered in box | Nothing entered in box | As expected |
| No num entered | No changes made to database or display. Error message with valid input shown | No changes made to database or display. Error message with valid input shown | As expected |

**“scrapeCoin” function**

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| --- | --- | --- | --- |
| **Test/Data** | **Expected Output** | **Actual Output** | **Comments** |
| n/a | Current USD price of Bitcoin, Litecoin and Vertcoin, according to Coinmarketcap.com | Current USD price of Bitcoin, Litecoin and Vertcoin according to coinmarketcap.com | As expected |

**“calcVal” function**

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| --- | --- | --- | --- |
| **Test/Data** | **Expected Output** | **Actual Output** | **Comments** |
| “1” BTC at price = $6988.03 | BTC Holdings Value = $6988.03 | BTC Holdings Value = $6988.03 | As expected |
| “25” LTC at price = $118.82 | LTC Holdings value = $2970.28 | LTC Holdings value = $2970.28 | As expected |
| “5” VTC at price = $1.74 | VTC Holdings value = $8.70 | VTC Holdings value = $8.70 | As expected |
| “0” BTC at price = $6988.03 | BTC Holdings Value = $0 | BTC Holdings Value = $0 | As expected |
| “0” LTC at price = $118.82 | LTC Holdings value = $0 | LTC Holdings value = $0 | As expected |
| “0” VTC at price = $1.74 | VTC Holdings value = $0 | VTC Holdings value = $0 | As expected |

**Toggle Currency**

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| --- | --- | --- | --- |
| **Test/Data** | **Expected Output** | **Actual Output** | **Comments** |
| “Toggle” button is pressed again | Should convert and display all currency items in £ | Prices are all converted and displayed in £ | As expected |
| “Toggle button is pressed from £” | Should convert and display all currency items in € | Prices are all convert and displayed in € | As expected |
| “Toggle button pressed from “€” | Should convert and display all currency items in $ | Prices are all converted and displayed in “$” | As expected |