Software Testing Report

Assignment Group 58 Analysis Tool

**s5254936 -** Bebin Roy   
**s5182075 -** Atticus Burgess   
**s5299401 –** Ansh

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# Unit Tests

| **No** | **Test Case** | **Expected Results** | **Actual Results** |
| --- | --- | --- | --- |
| 1.0 | Filter By Keyword | Asks user to input any keyword from a list of examples | Asks user to input any keyword from a list of examples |
| 1.1 | Filter data using the keyword “speeding” | Displays all data relating to speeding | Displays all data relating to speeding |
| 1.2 | Filter data using the keyword “alcohol” | Displays all data relating to alcohol | Displays all data relating to alcohol |
| 1.3 | Filter data using the keyword “collision” | Displays all data relating to collision | Displays all data relating to collision |
| 1.4 | Filter data using the keyword “distraction” | Displays all data relating to distraction | Displays all data relating to distraction |
| 1.5 | Filter data using the keyword “speeding”, apply the hit and run filter. | Displays all data related to speeding and hit and run | Displays all data related to speeding and hit and run |
| 1.6 | Filter data using the keyword “speeding”, apply the hit and run filter, generate a graph with this data | Graph is produced with results of “speeding” and hit and run filter. | Graph is produced with results of “speeding” and hit and run filter. |
| 1.7 | Filter data using the keyword “speeding”, apply the hit and run filter, apply the accidents per average hour filter to produce a graph of this new data | A graph is created displaying results related to “speeding”, “hit and runs”, and based on average hour filter. | A graph is created displaying results related to “speeding”, “hit and runs”, and based on average hour filter. |
| 2.0 | Filter By Date | Asks user to input a start date and end date | Asks user to input a start date and end date |
| 2.1 | Filter between two dates that user specifies and display data | User applies filters and displays results | Filters applied and results displayed |
| 2.2 | Filter between two dates that user specifies and apply a hit and run filter | User applies both filters and results displayed | User applies both filters and results displayed |
| 2.3 | Filter between two dates that user specifies, apply a hit and run filter and a keyword filter | User applies all filters and results are displayed | User applies all filters and results are displayed |
| 2.4 | Filter between two user specified dates, then generate a bar graph with hourly average accidents | The specified dates have been applied and the graph showing hourly average accidents is displayed | Graph is displayed with appropriate filters applied |
| 2.5 | Filter between two user specified dates, apply the hit and run filter, then generate a bar graph with hourly average accidents | The specified dates have been applied as well as the hit and run filter has applied, the graph showing hourly average accidents is displayed | Graph is displayed with appropriate filters applied |
| 3.0 | Filter By Hit and Run | The user applies the hit and run filter which only provides these results, the user must quit the program from the terminal | Once user applies the hit and run filter which only provides these results, the user must quit the program from the terminal |
| 3.1 | Toggle the hit and run filter and display the data | All results will be filtered and only results with hit and run applied will be shown | All results were filtered, and results were accurate |
| 3.2 | Toggle the hit and run filter, display the data, quit the program and redo the inputs and filters | Produces correct results with hit and run present. Upon quitting program and reapplying the filters it works still. | All results were produced even when programs quit and applies filters again |
| 4.0 | Display Desired Data | Displays data that user has desired | Displays data that user has desired |
| 5.0 | Clear All Commands | Clears all data and commands previously that user has inputted | Clears all data and commands previously that user has inputted |
| 6.0 | Filter By Alcohol Present | Displays a pie chart conveying what percentage of accidents involved alcohol or not | Displays a pie chart conveying what percentage of accidents involved alcohol or not |
| 7.0 | Filter by hourly accidents | Filters the data by hourly and produces a graph to display data | Filters the data by hourly and produces a graph to display data |
| 8.0 | Quit the Program | Quits the program and displays a goodbye message | Quits the program and displays a goodbye message |
| 9.0 | User Interface | User interface appears when program is initially running | User interface appears when program is initially ran |
| 9.1 | User Interface functionality | All buttons and dropdown menus on the user interface can be interacted with | All buttons and dropdowns work |

# Coverage Report

Each unit test was created beforehand during initial meetings together before the creation of any code had occurred. All 24-unit tests were thoroughly tested and debugged during the coding cycles. All unit tests were completed in order of numbered listed until the expected result had occurred. With each new filter being tested by itself before being implemented with the entire program. 8 test cases focused in the “Keyword” function of the program which required the most testing. Seven on the cases focused on the “Date Filter” search tool, 4 based upon “hit and run” filter and two user interface test cases. The program features 7 basic functions to not overwhelm the user in the terminal environment when initially the program is running. Each function coincides with unit tests and were tested one at a time to make sure they worked independently.

# Requirements Acceptance Testing

| **Software  Requirement No** | **Test** | **Implemented (Full /Partial/ None)** | **Test Results (Pass/ Fail)** | **Comments (for partial implementation or failed test results)** |
| --- | --- | --- | --- | --- |
| Software Requirement 1.1 | The program shall be easy and simple to navigate with clear headings and buttons. The software will abide by suitable visual design standards. | FULL | PASS |  |
| Software Requirement 1.2 | The default way the data shall be sorted by is by date, oldest to newest. | FULL | PASS |  |
| Software Requirement 1.3 | The program shall accept only single words or “strings” that will henceforth interact with the dataset in the key word description tool. | FULL | PASS |  |
| Software Requirement 1.4 | The program shall accept numerical digits (floats and strings) when the user is prompted that will henceforth interact with the dataset. | FULL | PASS |  |
| Software Requirement 1.5 | Once provided with desired requests the program shall automatically produce specified graphs and tables. | PARTIAL | PASS | User must press “go” on the UI to produce graphs |
| Software Requirement 1.6 | The user shall be able to export the desired graphs or tables as a simple file name and a destination on their local machine. | None | Fail | User’s operating systems could not be optimized and was different for every test case |