Software Testing Report

< Victoria Road Crash Data Software >

Student Names

Group 56

s5219071 Inho Kim

s5263901 Ehkeller Hein

Table of Contents

[1.0 Unit Tests 3](#_Toc147496084)

[2.0 Coverage Report 8](#_Toc147496085)

[3.0 Requirements Acceptance Testing 9](#_Toc147496086)

# Unit Tests

| **No** | **Test Case** | **Expected Results** | **Actual Results** |
| --- | --- | --- | --- |
| **1.0** | **Filter by date** | **Able to select a date for which the incidents occur** | **Once chosen the results would appear on the graph to the next and updated every time a new date was chosen** |
| 1.1 | Filtered on the 01/01/2014 and displayed time data | Show all relevant information on the specific time of day | A pie chart was generated as well as collum graph to show the times of accidents. |
| 1.2 | Filtered on 01/01/2015 and display crash type | Show all relevant information on the specific crash type on the day | Generated a graph to show the crash in relevance to how many accidents had occurred. |
| 1.3 | Filtered on 01/01/2016 and display location | Show all relevant information on the location of accidents on the day | Generated a graph that names all the locations as well as how many accidents occurred at the location |
| 1.4 | Filtered on 01/01/2017 and display conditions | Show all relevant information on the conditions of accidents on the day | Generated a graph that shows the conditions at the time, as well as how many accidents occurred. |
| 1.5 | Filtered on 01/01/2018 and display road user type | Show all relevant information on the road user on the day | Generated a graph that shows the road users, as well as how many accidents occurred. |
| 1.6 | Filtered on 02/04/2018 and Object Hit | Show all relevant information on the objects hit on the day | Generated a graph that shows the objects hit, as well as how many accidents occurred. |
| **2.0** | **Histogram Functions** |  |  |
| 2.1 | Filter by Time | Display the time | Filters all data to be relevant to time of the accidents from 6:30am to 11pm |
| 2.2 | Filter by Crash Type | Display crash type | It displays information regarding crash type. First press will show place of crash, next press will show collisions and finally a third press will show if it occurred at an intersection or not. |
| 2.3 | Filter by Location | Display location | It displays the locations of which the accidents occurred. The first press will location by suburb. A second press will indicate the area whether it be in the north, east, west, etc…. the third press will show if the type of area urban, city or rural. And finally, a fourth press will narrow it all down to letters which are in reference to the grouping of the locations. |
| 2.4 | Filter by Conditions | Display conditions | It displayed the conditions of the road Aswell as the condition of the driver and passengers. The first press will show the progress of the road if the road is finished. The second press will show id the road was unsafe to drive. The third press will show the time meaning if the lights were on or not or if it was just morning or dusk. The fourth press will indicate if people could see while driving. A fifth press will show if the injuries was serious or not. And finally, a sixth press will show the speed at which the vehicle was travelling. |
| 2.5 | Filter by Road User type | Display road user types | It displayed the information such as if they were male, female, or non-binary. The age at which they were at the time of incident. The license they held (L, P or opens). |
| 2.6 | Filter by Object Hit | Display objects hit | It displayed the information such as, were there any objects around. The number of objects hit. The object that was hit. How much damage was done to the object |
| **3.0** | **Application Options** |  |  |
| 3.1 | Application Window Size | Change the size of the application | When first generated the size of the application will be small but if the maximize button is press it will get larger. And if to shrink just press the same button but it will say restore down instead. |
| 3.2 | Hide Application | Have the app in the background | By pressing the minimize button it will make the application stay in background mode running in the back |
| 3.3 | Callender | Look at the dates | A calendar is placed so that dates can chose to a client liking. |
| 3.4 | Application Name | Displays application name | At the very top the application name is generated so users are not confused on what the application is about |
| 3.5 | Quit | Close application | By press the X button a the top users are exiting the application and closing it down. |

# Coverage Report

We have a run a full-scale diagnostic and analyse in coverage of the unit tests, executing and debugging over a multitude of times. In accordance with the unit tests, we have covered multiple combinations of the main functions of the applications to make sure that no or little errors are present so that users don’t end up running into an issue when repeating the process but with different data. the application we developed has 7 main functions in which operate to ensure that users are benefiting from and can utilise at full potential. Since the application is too big itself, we decided to see if the functions were able to generate more date by testing itself multiple times. So, we worked up on the functions from top to bottom. With sufficient testing we were able to expand the database in which the users could access Aswell as the possible combinations. The calendar was able to reach all the way back to 2014, ‘crash type’ was able to be filtered 3 times, ‘locations’ able to be filtered 4 times, ‘conditions able to be filtered 6 times, ‘road user type’ able to be filtered at least 10 times and finally ‘object hit’ able to be filtered 5 times. All these functions were able to use off just the dates making combing data easy. In conclusion, the test results produced sufficient and successful results, meaning that this software is eligible and effective enough for the Victoria Accident dataset to be utilised productively.

# Requirements Acceptance Testing

| **Software  Requirement No** | **Test** | **Implemented (Full /Partial/ None)** | **Test Results (Pass/ Fail)** | **Comments (for partial implementation or failed test results)** |
| --- | --- | --- | --- | --- |
| 1  Able to change date | Allow user to access any date from January 1st, 2014, to September 30th 2018 | Full | Pass |  |
| 2  Allow users to filter time form date | Display all data in relevance to the time of accidents | Full | pass |  |
| 3  Allow users to filter crash type from date | Display all data in relevance to the crash type of accidents | Full | Pass |  |
| 4  Allow users to filter location from date | Display all data in relevance to the location of accidents | Full | Pass |  |
| 5  Allow users to filter conditions from date | Display all data in relevance to the conditions of accidents | Full | Pass |  |
| 6  Allow users to filter road user type from date | Display all data in relevance to the road user type of accidents | Full | Pass |  |
| 7  Allow users to filter object hit from date | Display all data in relevance to the objects hit of accidents | Full | Pass |  |
| 8  Mini map | Directory/level names must start with an alphabetical character to be considered valid | None | Fail | Never implemented |
| 9  search bar | The program should be able to accept as many levels for each file name as the user wants to input. This is limited only by the number of levels allowed in Windows (approximately 120) | None | Fail | Never Implemented |