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| < Victoria Road Crash Data Software > Executive Summary |
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# Abstract

After the project's development and testing phases were finished and the functionalities were confirmed to work, we successfully attained all six of our goals, which were crucial to ensuring that any user may use the program however they may need to achieve their goal. The software can produce a bar graph from any data the user provides, for example, by visualizing the time of day that the number of accidents that occur during each particular 24-hour period; The program's ability to trim data to present findings on select dates allows the user to enter any precise time period they want to research within the data range; The user can also filter through functions to find particular information or specific accident-related events. The program can examine the user's entered data to determine whether an accident had occurred on that specific day, as well as generating a pie chart to illustrate the incidents.

# Introduction

The report in hand has been dedicated to cover the mass details of the Victorian Road Crash Dataset, in which data has been collected from the start of 2014 to late 2018. With almost 5 years’ worth of data, the task given was to address and adhere to 6 objectives that a software analysis program must be able to achieve. Since there were ample timestamps to choose from, the focus was around 2015 to 2017 mark as this seems like the most ideal way to determine if the 6 objectives could be achieved as not only does it stretch longer then a 12-month period, but it also indicates that the software can handle all the data in a single run. The selected date was to record and precisely record all the data that was collected. Within the testing analysis had to be included therefore we made sure that our program could Filter data of accidents by time; the crash type of the incident; location of the accidents; road user types of the accident and objects hit at the incident.

# **Analysis 1 <Data on the Time of accidents at the select date>**

Our data analysis program can accurately identify and provide graphic statistics showing the number of accidents that occur on the day using a specific data that the user has specifically selected. By selecting a date on the calendar we'll filter the data in a test run using a certain date that was looked at over the course of a year. In this case we are to display the ‘time’ data using the starting point of November the 16th 2015.

A screenshot of a computer

Description automatically generated

When the ‘time function’ was applied to the data, this would specifically show us the data from the 16th of November 2015 in the relevance to the time as shown. So, everything that was recorded within the day has been narrowed down to the hours staring from 6:30 am to 11:00pm. We can conclude that this function that was required is a success.

# **Analysis 2 < Data on the Crash Type of accidents at the select date >**

Our data analysis program can accurately identify and provide graphic statistics showing the number of accidents that occur on the day using a specific data that the user has specifically selected. By selecting a date on the calendar we'll filter the data in a test run using a certain date that was looked at over the course of a year. In this case we are to display the ‘crash type’ data using the starting point of January the 14th 2015.

A screenshot of a graph

Description automatically generated

When we apply the data with the date and press the crash type function a whole new graph is shown with a title to signify its change. As shown above it shows if any collisions were made, in this case collisions occurred more with two vehicles reaching past the 15 accidents. but the graph not only shows that. If the ‘crash type’ function were to be pressed another time it would show other data for if the crash occurred at an intersection. Which means that the data has been filtered down even further to make it easier to analyse.

A screenshot of a computer

Description automatically generated

Shows that the collisions were equal when either around an intersection or without one being there.

# **Analysis 3 < Data on the Location of accidents at the select date >**

Our data analysis program can accurately identify and provide graphic statistics showing the number of accidents that occur on the day using a specific data that the user has specifically selected. By selecting a date on the calendar we'll filter the data in a test run using a certain date that was looked at over the course of a year. In this case we are to display the ‘locations data’ using the starting point of November the 14th 2016.

A screenshot of a graph

Description automatically generated

When we combined the date with the function of ‘location’, we can see that the data has been narrowed down to just looking at the locations on which the accidents have occurred and just by looking the data, 3 locations had almost 2 accidents on the day. To narrow it down even further, if the ‘location’ function were to be pressed again. It would show the location based of the area that was surrounding it.

A screenshot of a graph

Description automatically generated

# **Analysis 4 < Data on the Conditions of accidents at the select date >**

Our data analysis program can accurately identify and provide graphic statistics showing the number of accidents that occur on the day using a specific data that the user has specifically selected. By selecting a date on the calendar we'll filter the data in a test run using a certain date that was looked at over the course of a year. In this case we are to display the ‘conditions’ data using the starting point of November the 29th 2016.A screenshot of a computer

Description automatically generated

When we combined the date with the function of ‘conditions’, we can see that the data has been narrowed down to just looking at the period on which the accidents have occurred and just by looking the data, within the day there were about 40 accidents that occurred during the day. To expand it further the ‘conditions’ function can be pressed again to show not only if the accidents ended up with being serious injuries or not but also the speed at which vehicles were moving.

A screenshot of a computer

Description automatically generated

A graph with a pie chart

Description automatically generated

# **Analysis 5 < Data on the Road User Type of accidents at the select date >**

Our data analysis program can accurately identify and provide graphic statistics showing the number of accidents that occur on the day using a specific data that the user has specifically selected. By selecting a date on the calendar we'll filter the data in a test run using a certain date that was looked at over the course of a year. In this case we are to display the ‘Road user type’ data using the starting point of January the 17th 2017.

A screenshot of a graph

Description automatically generated

When we combined the date with the function of ‘road user type’, we can see that the data has been narrowed down to just looking at position of the person on which the accident occurred for example passenger, driver, etc… unfortunately the names of the data did not load in properly which can be hard to understand but with the raw data been read as well users will find it easy to match the names to the graph.

# **Analysis 6 < Data on the Object Hit of accidents at the select date >**

Our data analysis program can accurately identify and provide graphic statistics showing the number of accidents that occur on the day using a specific data that the user has specifically selected. By selecting a date on the calendar we'll filter the data in a test run using a certain date that was looked at over the course of a year. In this case we are to display the ‘object hit’ data using the starting point of march the 22nd 2017.

A screenshot of a graph

Description automatically generated

When we combined the date with the function of ‘objects’, we can see that the data has been narrowed down to just looking at the number of objects hit, and it can be clearly seen that most of the accidents did occur with at least 2 other objects being hit.