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| Penalty App Executive Summary |
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# Abstract

The graphical user interface performed 5 required analysis and visualizations with the given data. For the selected period year of 2016, the application was able to provide insights into viable data such as distribution of cases outlining which offence is more likely to occur (offence code), the effectiveness of camera implementation and radar and usage, the impact and rate of penalties caused by mobile usage and the total face value with regards to offence code. It’s able to perform data analysis based on given data with no heavy time delay and As such, the performance of the application during this assessment is expected to be successful and effective.

# Introduction

This project involved the design and construction of a graphical user interface which will perform simple data analysis and visualization for a given set of data (NSW Traffic Penalty Data). The process and planning stage initially involved brainstorming and integration of ideas for the application along with a time schedule. The development stage followed the constructed of the user interface as well as the components that were necessary for the backend. Finally, testing was done to identify problems and improve overall efficiency and functionality.

There were five main analyses tasked performed. These include modifying the data to display various attributes for a user-selected period; report the information of all penalty cases, display the distribution of cases in each offence code and retrieve cases captured by radar or camera. Other analysis includes mobile case usage and offence code, with all comprising a date range of 12 months (2016).

# **Analysis 1 <User-selected period, report the information of penalty cases>**

Table

Description automatically generatedThe first feature/button displays all information penalty cases for the select year of 2016. The information includes Offence Month, Code, Description and many more attributes. As demonstrated by the image below (Use scroll bar to navigate to retrieve more data in the app)

# **Analysis 2 <User-selected period, chart the distribution of cases in offence code>**

Next feature that is implemented will a display a bar graph showing the distribution of cases in each offence code. As seen by the image produced, Code 82950 has the most cases count.

# Table Description automatically generated**Analysis 3 < User-selected period, display all cases captured by radar or camera based on offence description >**

The analysis will display all cases that is captured by either radar or camera based on the offence description. As seen by image, offence description contains only penalties that are camera detected or by speed radar

# **Analysis 4 <Display cases caused by mobile phone usage>**

This analysis generates a graph that represents the amount of all mobile cases that based on the offence being committed (offence code).

# **Analysis 5 <Display chart of total value regarding offence code >**

Chart, bar chart

Description automatically generatedThis analysis displays chart that represents which offence code contains the most total value (the total face value of penalty notices issued). In this case, code 79053 which represents Unregistered Vehicle has the highest total value