Project Plan

Victoria Accident Data Visualisation Project

Student Names

* Max Woollons s5349356
* Reiss Tooze s5046939
* Kail Terepai s5307474

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# Introduction

## Background

A system needs to be designed and implemented that allows for the analysis and visualisation of data comprising road crash statistics spanning from 2015 to 2020, covering the State of Victoria in Australia. The system must have the capacity to generate the following specific data sets for visual analysis:

* For a user-selected period, display the information of all accidents that happened in the period.
* For a user-selected period, produce a chart to show the number of accidents in each hour of the day (on average).
* For a user-selected period, retrieve all accidents caused by an accident type that contains a keyword (user entered), e.g. collision, pedestrian.
* Allow the user to analyze the impact of alcohol in accidents – ie: trends over time, accident types involving alcohol, etc.
* For a user-selected year, display the information of all accidents that occurred on a Victorian public holiday within the selected year.

The designed system will include a simple but intuitive GUI that allows the user to easily generate the data visualisation and present it in a way that allows for efficient analysis of the generated data.

## Scope

This project entails creating a GUI that allows users to generate a visual representation of a given data set. To ensure the success of the project a work breakdown structure, activity definition and estimation and Gantt chart will be produced. The purpose of these items are to allow for efficient organisation development of the project and to highlight the specific tasks involved, and track their progress.

As part of the project planning phase a software design document will be produced, the purpose of this document is to highlight how the software is used, the benefits of the software and show use cases of how a user would interact with the software.

This project will also involve testing of the software to ensure that it meets success criteria and efficiently performs the tasks that it was designed for.

## Document contents

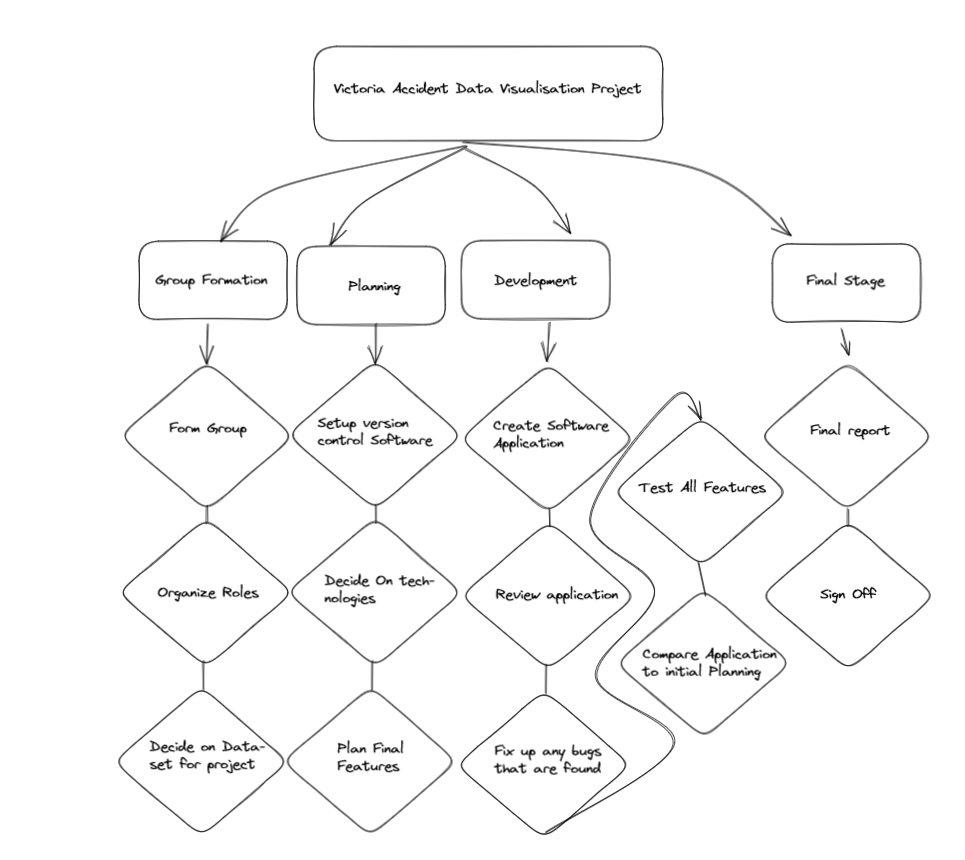
Included in this document are the following items:

* Introduction - This section highlights the requirements of the project and identifies the process to be undertaken in order to implement the identified requirements.
* Work Breakdown Structure (WBS) - A breakdown of the required task into manageable components. All tasks are visually represented in a structured way to allow for planning and comprehension of the required tasks.
* Activity Definitions & Estimations - This is a more in detail explanation of each component of the WBS along with a time estimate to complete the identified components.
* Gantt Chart - A visual representation of the activities required to complete the project. It includes the tasks identified from the WBS and includes the time estimate identified. It shows each task's start and end date along with indicating if a task may be dependent on another.

**2.0 Work Breakdown Structure**

The purpose of the figure below is to aid in defining the complete scope of the project and break it down into manageable sections and subsections. Doing this lays the foundation for further planning of schedules, modifications to the project and highlighting resources that may be required.

This WBS will then be referenced in the creation of the Gantt chart which will then refine the timelines for these tasks.

This project has four main sections. Group formation, Group Planning, Development and the Final Stage of the project.

# Activity Definition & Estimation

Below we add detail and time estimates to the parts of the project that were highlighted in the WBS. The purpose of this is to clarify the work that is required for the tasks and provide a rough time to complete the task. The time estimations identified here help inform a more accurate Gantt chart.

Group Formation (1 Week)

* Form Group for project
  + **This is the beginning of the project where we find team members for the group.**
* Organize roles for the project
  + **Each of us will decide what role we will take throughout the project.**
* Discuss and decide the dataset for the project
  + **As a group we will choose between the three datasets and decide on what one will be the most beneficial for us to use.**

Group Planning (3 Weeks)

* Organise and setup version control system
  + **Our group will decide on what version control system to use.**
* Decide on technologies.
  + **During this section we will discuss as a team what library/packages we will use for the applications GUI, Dataset Manipulation and Graph generation.**
* Plan final features
  + **If there are any parts of the project that are missing we will pick it up during this part of the planning.**

Development (6 Weeks)

* Create the software application
  + **The software will be created using chosen technologies.**
* review the application
  + **Once the application has been created as a group we will go over the project to find Bugs and parts that potentially have been missed.**
* fix up bugs on the application
  + **After the review of the application the bugs will be fixed up in this part of the development.**
* Test all the features of the software
  + **All of us will test the software to find any more issues.**
* Compare application to the initial planning
  + **Assuming the program is bug free we will compare the final product to the initial planning stages.**

Final Stage (2 Weeks)

* Final report
  + **Once the project is finished, document the final testing results for final review.**
* Sign Off
  + **Submit the final result for assessor review.**

# Gantt Chart

The Gantt chart below has been made using the tasks and timelines identified in the WBS and activity definition and estimation. Its purpose is to aid us in visualising upcoming tasks and to help with task scheduling.

Taking advantage of our accurate Gantt chart will ensure we have effective planning, project transparency and efficient task prioritisation.

