

**Sacred Heart College Kyneton**

**Information Technology**

**Unit 2**

**Area of Study 1**

**Data Visualisation**

Start Date: Thursday 31st July, 2014

Finish Date: Friday 8th July, 2014

**Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Instructions and Synopsis

On completion of this unit the student should be able to apply the problem-solving methodology and use appropriate software tools to create data visualisations that meet users’ needs.

* Your SAC should be organised into your IT folders called **Unit 2\_SAC 1\_’Fullname’**.
* You are required to answer the questions (where applicable) in a word document, clearly naming the file according to the sections in which you are answering. You can use the same word document for all your worded answers, just clearly label the sections and question number you are answering.
* Where applicable to writing your answers in words, you do not have to copy the questions out but you are expected to write your answers in **full sentences.**
* All resources you find must be stated at the end of the word document under **“References”**.

*The leading cause of preventable death in Victoria is smoking. Smoking-caused deaths in every area of the state outstrip other major avoidable deaths caused by alcohol, other drugs and road deaths, even when combined.*

*The Big Kill is a collection of data released by The Cancer Council Victoria. It shows the level of deaths caused by smoking in every local government area across the state*.

1. **Analysis: Answer the following questions in Word:** *(6 marks)*
2. What are the major factors that contribute to smoking being the leading cause of preventable death in Victoria?
3. What would be the best way of presenting the information?
4. What constraints do you have on the way the information is presented?

**PART A**

Open the following website: <http://www.quit.org.au/thebigkill/browse.asp?ContainerID=whatisthebigkill>

1. Answer the following questions on smoking statistics in Victoria: *(6 marks)*

(a) Click onto the **View Data by Area – All of Victoria** link. How many deaths can be directly attributed to smoking (number and percentage)?

|  |  |
| --- | --- |
| Victoria Number | Percentage |
|  |  |

1. What is the most common cause of death amongst smokers? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Click on **Local Government Areas** and select **Cardinia Shire Council.** How many deaths can be directly attributed to smoking (number and percentage)?

|  |  |
| --- | --- |
| Cardinia Number | Percentage |
|  |  |

1. What is the most common cause of death amongst smokers in Cardinia? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. **Design:** You can use the [Many Eyes website](http://www-958.ibm.com/software/data/cognos/manyeyes/)  or **Excel** to make your visualisations. All charts are to be appropriately labelled (title, x and y axis) and in the most appropriate format.

1. Compile a table in Excel which shows the region, the total number of deaths, deaths from smoking and the percentage for the regions of: Horsham, Loddon, Mansfield, Murrindindi, Mildura and Benalla.

*(4 marks)*

|  |  |  |  |
| --- | --- | --- | --- |
| Region | Total deaths | Smoking deaths | Percentage |

1. From your data, create a chart which shows the death rates from smoking for each region compared with the whole of Victoria*. (6 marks)*

**PART B**

You have been employed by *Quit Australia* to put together a presentation for the Board of Directors, which supports the assertion that **rates of smoking have decreased in Australia.** They have referred you to the following sites which you may use as a starting point to assist you with your presentation.

* <http://en.wikipedia.org/wiki/List_of_countries_by_cigarette_consumption_per_capita>
* <http://www.quit.org.au/>
* <http://www.abs.gov.au/>

You will need to create 4 visualisations from the choices below. *(12 marks)*

* 1. A comparison between the rates of smoking in Australia, USA, England, New Zealand, Greece, Japan, Spain, Russia, India and Sri Lanka.
  2. A comparison between Australian male and female smokers for the period within any 40 year time frame.
  3. A graph showing how adult smoking has declined overall in Victoria between 1983 and 2009.
  4. A chart showing how the rate of smoking in secondary school students has decreased for both males and females.
  5. A comparison between deaths from smoking for Victorians and other causes such as road accidents, alcohol and other drugs.
  6. A word cloud which shows some of the diseases/problems that can result from smoking.

([www.wordle.net/](http://www.wordle.net/))

1. **Develop** your presentation by incorporating your charts into a Powerpoint Presentation. Ensure you have a title slide and a separate slide with each of your 4 different visualisations clearly labelled. *(5 marks)*
2. **Evaluation:**  write your answers to the following questions in full sentences (in Word). *(6 marks)*
   1. Which of your data visualisations do you think is the most effective for Quit Australia’s purpose to help prove its assertion? Explain why.
   2. Which of your data visualisations was the least effective? Explain why and how it could have been improved.
   3. Explain if the use of data visualisations made your task of investigating smoking rates any easier (ie, more efficient).

**END OF SAC 1**

**TOTAL**: / **45 marks**