**36104 DVN Assessment Task 3: Visual Analytics Project**

**Aim:**

This task is to get yourself familiar with Python visualisation techniques, and gain experience with data visual analytics process

**Task:**

You are required to identify a large data set that interests you or is in a domain that you have expert with, explore the data using any tool you may have including Tableau and Excel, formulate research questions, conduct literature review, create visualizations to answer these questions, make discussions, draw conclusions, make recommendations, and put all you have done is a properly formatted report.

Optionally, you may have research questions first and then look for public data sets that you think can work together to answer your research question.

**Notes:**

1. For this task, you can use any tools to generate visualisations, but some of them must be generated using Python visualization techniques.

2. Keep in mind principles of effective data visualization especially with respect to appropriate use of chart types, colour, layout, annotations and other visual elements to effectively convey the embedded information to your reader.

3. Although you can continue to work in a group to discuss and support each other, this is an individual task. The questions you ask should not be the same for individual group members. The visualisations and the report you produced should be completely your own.

**Data:**

You can use any publicly available datesets. You may find following links useful:

1. <https://data.gov.au/>

2. <https://www.kaggle.com/datasets> (note the original data sets may be posted for different purposes, but you can use the date for the purpose of visual analytics. Note this is a visual analytics assignment, NOT a machine learning or statistics assignment)

**Length and weight:**

Progress report: 700 words (figures, tables, references, appendix are not counted), 10%

Final Report: 2000 words (figures, tables, references, appendix are not counted), 40%

**Due date:**

Part A: Progress report, 11:59pm Sunday 17 May 2020

Part B: Final report, 11:59pm Sunday 7 June 2020

**Assessment criteria:**

Part A: Progress Report

1. Demonstrate reasonable progress towards the project goal.
   1. Dataset identified and cleaned.
   2. Research questions formulated.
   3. Literature review conducted
   4. Some visualisations created

Part B: Final Report

1. Complete submission with Python code, Tableau workbook if any, and report. The report must be a professionally formatted document (spelling, grammar, punctuation, layout) with content being presented in sections with proper headlines, such as introduction, motivation, literature review, analytic questions, method, results, discussion, conclusion, references and appendix.
2. Demonstration of mastering of python visualization techniques and storytelling skills and clarity of description.
3. Robustness in drawing on relevant external sources of evidence (e.g. client/stakeholder white papers; academic literature) for formulating analytical questions and discussions.
4. Effectiveness in describing the analytical process and communicating data insights using proper visualizations and other evidence.
5. Comprehensiveness of data analytics, depth of discussion, strength of insights and appropriateness of recommendations.

**Submission:**

Submit your report with Python code, other sources such as Tableau workbook if any.

**Additional information:**

Five best project submissions for the assignment task 3 will be chosen and presented for a best visual analytics project work certificate (one for first-place, two for second-place and two for third-place) acknowledging the awardees’ knowledge and skills for data visualisation and visual analytics.

To qualify for the award, you need to be confident that your project work is competitive and is willing to give an oral present at the week 12’s Zoom session in front of the class (this presentation will not be part of your final grade). The class will vote for the best ones and the teachers will make final decision.

If appropriate, the winners’ reports will be fine-tuned, working with the subject coordinator, for submission to be published in an academic conference. So for those who would like to go with this path, please talk to me at the beginning of the project so that you can choose a dataset that is suitable for publication.

**Further Information:**

* All assessments are to be submitted via CANVAS (unless otherwise advised)
* Group assignments should be submitted by all team members (unless differently instructed)
* Submissions must have a title page with subject name, student name(s) and IDs, date of submission and the title of the assessment.
* All submitted files should follow this naming format:
  + For individual assignments: *StudentName\_TaskName\_Date*   
    (*JaneSmith\_Task1PartA\_21032017.docx*)
  + For group assignments: *TeamName\_ TaskName \_Date*   
    (*Team1\_Task1PartA\_21032017.docx*)
* Tables, figures and appendices are not included in the size limit
* You can apply for an extension for up to 1 week (via email to the subject coordinator) with a valid reason (work, travel or hardware issues are not valid reasons)
* Extensions for more than 1 week require a formal application for extension: <https://www.uts.edu.au/current-students/managing-your-course/classes-and-assessment/special-circumstances/special>
* Extension requests submitted after the due date will not be considered or approved
* Unless extension arrangements are made, each late submission is penalised 10% per each day after the due date for 5 days.
* All marks and feedback comments will be recorded in Review (unless otherwise advised)