

36104 Data Visualisation and Narratives

Assessment Brief

Autumn 2021

Assessment Summary:

Task	Description	Type	Weight	Due date
1- Choosing right visuals and improving them to communicate big ideas	Written report	Individual	30%	11:59pm Sunday of Week 6
2- In-class programming assessments	Tutorial tasks	Individual	20%	11.59pm Sunday of the tutorial week
3- Visual analytics project/reflection	Written report	Group	50%	11.59pm Sunday of Week 12
Total			100%	

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
- Use embedded objects instead of linked objects for the content sourced externally
- 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)

36104 DVN Assessment task 1: Choosing/improving right visuals

Aim:

This task is to get yourself familiar with storytelling with data: a) to define the context, b) to choose an effective visual representation to communicate a message/story, and c) to improve a visual using decluttering and attention-focusing.

Task:

You are to explore a data set given below using Excel (or another tool that you are familiar with) and write a report on your visualization exploring and communicating process. Your report should answer the following questions:

1. What is your data about and what are their attributes?
2. Who are your stakeholders/audience and what are their background and attributes that will determine what and how you are going to communicate data insights?
3. Define a complete sentence to express the BIG IDEA. What are you going to communicate? And how are you going to communicate the big idea using data?

Prompting action

Here are some action words to help act as thought starters as you determine what you are asking of your audience:

accept | agree | begin | believe | change | collaborate | commence | create | defend | desire | differentiate | do | empathize | empower | encourage | engage | establish | examine | facilitate | familiarize | form | implement | include | influence | invest | invigorate | know | learn | like | persuade | plan | promote | pursue | recommend | receive | remember | report | respond | secure | support | simplify | start | try | understand | validate

4. Choose **two** different kinds of visual representations to communicate your message, based [on the data we have](#), and explain (justify) your election of the visual types and which one can better support the communication of your message.

Note: if you are not happy with this summary data you can change it and include more data from the original dataset (first sheet in the Excel).

Transmission Classification	(All)	
	Sum of Cases - cumulative total	Sum of Deaths - cumulative total
⊕ Africa	2477729	58357
⊕ Americas	43763906	1007142
⊕ Eastern Mediterranean	5530423	131334
⊕ Europe	32980237	709099
⊕ Other	745	13
⊕ South-East Asia	12683853	194801
⊕ Western Pacific	1358049	23447
Grand Total	98794942	2124193

Figure 1 Your data

5. Once you define your data visualisation, improve your visual to communicate your insights using decluttering, focusing attention and thinking like a designer. You need to demonstrate your visualisation process including your initial and final improved visualisations, and explain (justify) your changes/improvements.

Notes:

1. The filtered dataset is a summary that includes two different attributes from the original dataset. However, you are allowed to include other attributes to the filter data; adding other variables can give you more understanding of your data.
2. Different visuals can be generated as output, it will depend on the attributes used for the analysis and the approach analysis.

Data:

Original data source: <https://covid19.who.int/table?tableChartType=heat>

Additional material: [filtered dataset and initial charts](#).

This data set summarises the cumulative total cases and the cumulative cases of deaths regarding the current COVID-19 pandemic situation. This data has been collected by the World Health Organisation (WHO).

Challenge with this data: The world health organisation (WHO) wants to implement an urgent strategy in underdeveloping countries to reduce other risks of infections due to the increasing number of deaths because of COVID19. You are required to indicate which countries are the priority as well as to indicate a plan to implement the strategy world-wide.

Warning: copy other's work, or create your own based on others' work without proper acknowledgement will be caught as plagiarism with serious consequence!

Length and weight:

Report: Minimum 700 words (figures and table are not counted), 30%

Due date:

Written report, 11:59pm Sunday 4 April 2021

Assessment criteria:

1. A complete and professionally formatted report (spelling, grammar, punctuation, layout) with specific content answering the required questions.
2. Clarity in defining the context for this assessment.
3. Insightfulness in analysing the data to identify the right message to communicate.
4. Robustness in justifying the selection of visualisations and their relevance to the story being told.
5. Robustness in data improvements and justification of the enhancements in the final visual(s).

Submission

Submit your written report via Canvas by the due date.

Assessment task 2: In-class assessments

Aim:

This task is to test your understanding of Python visualization techniques.

Tutorial tasks (20%)

There are three tutorial assessments based on Python visualisation practice. The detail on tasks and mark distribution will be specified in the tutorial slides of programming session 2, 4 and 6 and due at Sunday mid-night of the tutorial week.

Criteria

Part	Programming materials	Mark
Part 1	Based on Session 1 and 2	6%
Part 2	Based on Session 3 and 4	6%
Part 3	Based on Session 5 and 6	8%
Total Mark		20%

Each part contains some questions and allocated weights to corresponding questions.

Partial marking will be given based on the attempt.

Due dates:

Part 1: 11:59pm Sunday 21 March 2021

Part 2: 11:59pm Sunday 18 April 2021

Part 3: 11:59pm Sunday 9 May 2021

Submission

Submit the required tutorial work via Canvas by the due date.

36104 DVN Assessment Task 3: Visual analytics project

Aim:

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

Task:

1. Visual analytics:

This is a group work. You are required to identify a large data set that interests you or is in a domain that you have expert with, process and explore the data using any tools you may have, formulate research questions, conduct literature review, create visualizations to answer these questions, make discussions, draw conclusions, make recommendations, and put all you have done in 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 questions.

2. Individual reflection:

This is an individual task. You are required to clearly outline the individual and team effort and how you collaborate for the project. You also need to have in-depth reflection and discussion on your learning journey while doing the collaborative project, such as what worked well and what did not work and why etc.

Notes:

1. For this task, you can use any tools to generate visualisations.
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 intended audience (for example, a general public).
3. Your visual analytic report is required to be professionally formatted and structured in sections with proper headlines, such as introduction, literature review (related work), data source and preparation, analytic questions/methods, results, discussion, references and appendix. You may see relevant sections in academic papers that are provided on Canvas or in industry-style business reports. The introduction and literature review in the report are to provide some background information for motivation, justification and validation of your data and research questions.
4. While you plan the structure of your report, you may find the following example papers/reports helpful:
<https://www.racv.com.au/content/dam/racv/images/public-policy/reports/2014-RACV-Crash-Risk-of-International-Visitors-Report-2014.pdf>

<https://www.rsc.wa.gov.au/RSC/media/Documents/SaferRoadCrossingsPedestriansOlderPedestriansDisabilities.PDF>

<https://www.mdpi.com/2227-7102/10/12/348/htm>

<https://www.mdpi.com/2306-5729/5/4/94>

<https://www.mdpi.com/1660-4601/17/11/3973/htm>

5. This is a group assignment. You must work in a group of 2 or more to discuss and support each other. It is particularly important that by working in groups not only can we help each other with learning, but also we can feel connected in this difficult situation. But the individual reflection component of the task should be completely your own work.

6. You will need to submit a progress report and a final report. The progress report is to get you started on the task early and keep you on track. It can be treated as an early version of the final report. Both reports will be evaluated independently.

Data:

You can use any publicly available data sets or collect and compile a data set yourself. 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 data for the purpose of visual analytics)

Length and weight:

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

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

Due date:

Part A: Progress report, 11:59pm Sunday 2 May 2021

Part B: Final report, 11:59pm Sunday 23 May 2021

Assessment criteria:

Part A: Progress Report

1. Demonstrate reasonable progress towards the project goal.
 - a. Data set identified and cleaned.
 - b. Research questions formulated.
 - c. Literature review conducted
 - d. Some visualisations created

Part B: Final report

Group

1. A clear and complete report with additional documents including source code and/or source files that produce visuals. The report must be a professionally formatted document (spelling, grammar, punctuation, layout) with content being presented in sections with proper headlines.

2. Demonstration of mastering of various visualisation techniques and storytelling skills.
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 visualisations and other evidence.
5. Comprehensiveness of data analytics, depth of discussion, strength of insights and appropriateness of recommendations.

Individual

1. Clarity on highlighting the individual and team effort for the project
2. In-depth reflection and discussion of your journey in learning while doing the collaborative project

Submission:

Submit your group report plus self-reflection with other relevant attachments via Canvas by the due date.