

Cardiff School of Computer Science and Informatics

Coursework Assessment Pro-forma

Module Code: CMT218

Module Title: Data Visualisation

Lecturer: Dr Martin Chorley

Assessment Title: Data Analysis and Visualisation Creation

Assessment Number: 2

Date Set: 20th April 2021

Submission Date and Time: by 26th May 2021 at 9:30am

Return Date: 21st June 2021

This assignment is worth 70% of the total marks available for this module. If coursework is submitted late (and where there are no extenuating circumstances):

- 1 If the assessment is submitted no later than 24 hours after the deadline, the mark for the assessment will be capped at the minimum pass mark;
- 2 If the assessment is submitted more than 24 hours after the deadline, a mark of 0 will be given for the assessment.

Your submission must include the official Coursework Submission Cover sheet, which can be found here:

<https://docs.cs.cf.ac.uk/downloads/coursework/Coversheet.pdf>

Submission Instructions

The coursework submission should consist of two items: a coursework coversheet, and your submission for the coursework in your chosen format, as explained in the next section

Description		Type	Name
Cover sheet	Compulsory	One PDF (.pdf) file	[student number].pdf
Data Analysis and Visualisation	Compulsory	One zip archive (.zip) containing all code/outputs used to analyse and visualise data, and the final visualisation	DAV_[student number].zip
Visualisation Evaluation	Compulsory	One PDF (.pdf) or Word file (.doc or .docx)	PR_[student_number].pdf/.doc/.docx

Any deviation from the submission instructions above (including the number and types of files submitted) will result a reduction in marks for that assessment or question part of 10%.

Submission will be via upload to Learning Central.

Staff reserve the right to invite students to a meeting to discuss coursework submissions

Assignment

You are asked to carry out an analysis of a dataset and to present your findings in the form of a **maximum of two (2) visualisations**, along with a record and evaluation of your work.

You should find one or more freely available dataset(s) on any topic, from a reliable source. You may wish to choose something from data.gov.uk or ons.gov.uk for example.

You should carry out an analysis of this data to determine what the data tells you about its particular topic and should visualise this data in a way that allows a user to understand the data and what the data shows. You should create a **maximum of two visualisations** of this data that efficiently and effectively convey the key message from your chosen data.

You can use any language or tool you like to carry out both the analysis and the visualisation, but all code used must be submitted as part of the coursework, and it must include enough instructions/information to be able to run the code and reproduce the analysis/visualisations. For example, you may wish to extract, transform and analyse the data using Python, and then create visualisations using d3.js. You would submit all the Python code, along with a link to (or copy of) the raw data source, and all the HTML, CSS and JavaScript files necessary to produce a visualisation of the processed data, along with instructions on how to run all code.

You should create a **very short (2 page, ~800 words)** evaluation of the success (or not!) of your completed visualisation(s).

Important! It is expected that each student will choose a different dataset. Once you have chosen your dataset(s) for analysis, you should complete the form linked below with your selection to confirm it is a unique choice. Dataset allocation will be done on a first-come, first-served basis, so do not delay, as another student may 'claim' the dataset first! Data selection should be completed by **27th April at 5PM**. Any data redistribution as part of your submission must abide by the licence under which the data was obtained.

Dataset Selection form:



https://forms.office.com/Pages/ResponsePage.aspx?id=MEu3vWiVVki9vwZ1l3j8vBOfLE1pikVOra_03FfJWJhUQVJRMFdVMEk0NkRPVIFHNkxBTVFJV1dZW4u

Learning Outcomes Assessed

1. Examine and explore data to find the best way it can be visually represented
2. Create static, animated and interactive visualisations of data
3. Critically reflect upon and discuss the merits and shortcomings of their own visualisation work

Criteria for assessment

Credit will be awarded against the following criteria.

Component & Contribution	Fail (<50)	Pass (50-59)	Merit (60-69)	Distinction (70+)
Dataset selection and analysis (10%)	No real data used, or dataset 'fake' No/basic analysis of data	Real-world data selected Cursory high-level analysis of data	Real-world data selected Data analysed in detail	Multiple real-world datasets on similar theme selected
Visualisation and Data Presentation (60%)	None/poor visualisation of data Poor data presentation No story conveyed to user, story/findings unclear	Rudimentary or basic visualisation of data Message/story clear to end user	Appropriate visualisations End user able to explore/interpret data and affect display Message/story clear	Appropriate visualisations with interaction and/or appropriate animation End user able to explore/interpret data and/or affect display Message/story clear
Visualisation Evaluation (30%)	Little to no evaluation	Some effort at evaluation	Reasonable evaluation	Insightful evaluation

Feedback and suggestion for future learning

Feedback on your coursework will address the above criteria. Individual feedback and marks will be returned on **21st June 2021** via email, with further cohort feedback given by video.

Feedback from this assignment will be useful your dissertation.

Questions

Questions about the assignment can be posted to the COMSC StackOverflow site:

<https://stackoverflow.com/c/comsc> using the tag cmt218-cw