State of The Nation

CSC3833 Data Visualization and Visual Analytics : Summative Assignment

The assignment:

Visualization has become a tool both for the exploration of raw data and for the presentation of analysed data to end users. In this assignment you are asked to represent your understanding and analysis of data about the United Kingdom as a communication tool to inform the viewer about three aspects of life in the UK:

A) Categorical data: house price comparison

Compare four categories of housing and their prices in two regions of the UK.
This is nominal data where each category is a house type.

B) Numerical data: correlation of broadband upload and download speeds

Compare the relationship between broadband upload and download speeds in all regions of the UK, demonstrate the strength of this relationship with a correlation calculation and a regression line. Highlight one or two regions that stand out that are of interest for you.

C) Time series data: London Stock Exchange share price

Demonstrate how a time series is presented, include at least one type of additional information that is of relevance to share trading decisions.

D) Summarise the main narrative that each of the above three plots has for the viewer.

Add a short narrative describing the main takeaway of each of the three plots as a fourth box of information.

Present all four items on a single 16:9 aspect ratio figure using matplotlib and its subplot feature.

The data

The data will be available to download use the wrangled files to get going quickly. We will review the structure of the data in the lectures and you can ask more in the practical laboratories.
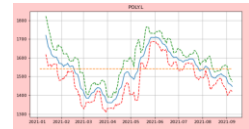
What to submit

1 **The four panel plot as a 16:9 1920x1080 image, the technical report and your python code.**
2 **Your report addressing how you think you achieved the learning aims of the course.**

The deadlines for each part of the submissions are:

1 Monday November 29th at 16:00

2 Monday December 6th at 16:00

Use of software tools

You must use Python with pandas and matplotlib libraries alone for this exercise, your software must work on an NUIT supported computer in the teaching laboratories.

The marking scheme for CSC3833

In order to gain marks, you must demonstrate your application of visualization skills and techniques against the following marking scheme.
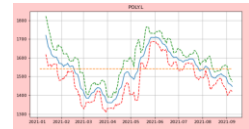
Part 1

Visualizations	Criteria	Mark	Feedback & how to improve.
A House prices	Use of visual channels	/7	
	Gestalt design principles	/7	
	Use of colour	/7	
	Use of language in the visual and narrative in the caption.	/7	
B Broadband performance data	Use of visual channels	/7	
	Gestalt design principles	/7	
	Use of colour	/7	
	Use of language in the visual and narrative in the caption.	/7	
C Financial time series data	Use of visual channels	/7	
	Gestalt design principles	/7	
	Use of colour	/7	
	Use of language in the visual and narrative in the caption.	/7	
	Total for the visualization	**/84**	
Report 1	**Technical report**		
	Descriptive report of what was done.	/10	Up to 1000 words against the report template provided.
	Total for report 1	**/10**	
	Total for part 1	**/94**	

Part 2

Report 2	Reflective report		
	Critical reflective report on the success and challenges of the assignment	/6	Up to 200 words as a single page pdf.
	Total for part 2	**/6**	

	Total for the module	**/100**	

The template for the part 1 technical report

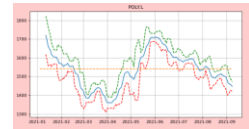Please use this template to write your technical report of up to 1000 words in total.

Part 1 Technical report on your visualization

Name: **Student Number:**

Visualizations	Criteria	Technical description of what you implemented.
A House prices	Use of visual channels	
	Gestalt design principles	
	Use of colour	
	Use of language in the visual and narrative in the caption.	
B Broadband performance data	Use of visual channels	
	Gestalt design principles	
	Use of colour	
	Use of language in the visual and narrative in the caption.	
C Financial time series data	Use of visual channels	
	Gestalt design principles	
	Use of colour	
	Use of language in the visual and narrative in the caption.	

Part 2: Reflective critical report on your visualization

Name: **Student Number:**

Highlight in up to 200 words how well you think your three visualizations worked and what, if anything else, you would like to have added to them.