DATA VISUALISATION 1

Semester 2, 2019

Submission

Due date: Friday of week 8 (20 September), 5pm.

The submission of two documents through the unit website is required.

1. Submit a **report as a PDF** document through a Turnitin link on Moodle.
2. Submit a separate **Tableau Desktop file compressed with ZIP** on Moodle.

In addition, publish your visualisation on Tableau Public and include the URL on the coversheet of your report. If you are not using Tableau, make your visualisation accessible on a public web server and submit a ZIP archive with all files.

Introduction

In this assignment you design and build an effective visualisation for data of a specific domain. This will require you to critically evaluate information in a domain of your choice and develop your own visualisation. The domain can be broad or specific depending on availability of datasets. If you have difficulty finding an interesting dataset or domain, have a look at https://www.kaggle.com/datasets.

The aim of the assignment is to apply the data visualisation techniques examined during the first 6 weeks of the semester, and demonstrate their use in an innovative context. As such, the visualisation should satisfy the following:

- Why: It should address a particular need within a specific domain of your choosing. It must be targeted to the domain, its needs, and its users. This does not mean the visualisation has to solve a problem as such, but it must be a visualisation that is useful or interesting to people within the chosen domain.
- What: It should use a data source relevant to the domain. The data source does not have to come from within the domain, however the data itself must obviously be relevant. Data can be of any kind.
- It must turn data into something meaningful and provide insight that would otherwise be difficult without the visualisation.
- It must provide interactive exploration.
- It needs to show some innovation. It does not have to be wholly original, but cannot simply be a replica of a visualisation that already exists in the domain. It could be an innovative visualisation, or the use of a known visualisation with a new kind of data.

- It must demonstrate use of the Five Design Sheet methodology for sketching and planning the design of your visualisation.
- It must demonstrate use of the Munzer What/Why/How framework discussed in lectures for correctly assessing the type of data, the goals of the visualisation and the design of the visualisation.
- It must apply design principles discussed throughout the unit, such as data-ink ratio, storytelling, layout, and visualisation idioms with appropriate use of marks and channels.

Task Description

1. Choose a **domain** that you would like to explore.
2. Find relevant **datasets** that are publicly available.
3. Present your domain, design ideas, and datasets to your tutor to obtain **approval** in the week 5 lab. This is a hurdle requirement for this assignment: You must obtain formal approval from your tutor.
4. Design a narrative visualisation using the **5 Design Sheet Methodology**.
5. Implement your design with **Tableau**.[1]
6. In week 7 or 8 you will give a 5-minute **presentation** that demonstrates your visualisation and describes the design decisions you have made.
7. Write a **report with a maximum length of 750 words** covering the following:
    a. A cover sheet with the number of words and a **URL** of your visualisation.
    b. A brief description of the **domain, Why** and **Who**.
    c. **What**: A brief description of the **data** (sources, authors, relevance, creation process, etc.).
    d. **How**: Give a rationale for choosing the specific idioms, and explain how they help the users to achieve their tasks. Include at least one screen capture of your entire visualisation, and a description of features that are special to your visualisation.
    e. **Bibliography**.
    f. Appendix with scans of your **5 Design Sheet Methodology** outcome.

Expectations

Format: The entire visualisation must be accessible through a single URL. The entire visualisation must be visible on a single web page that can be scrolled. There should be no buttons (or other web links) that swap the major section of the web page, but you can use buttons to show and hide individual page elements.

Presentation not exploration: The goal of this assignment is to create a visualisation that presents interesting data in an easily accessible and graphically engaging way using storytelling elements, layout principles, typography and graphical design. The goal is not to create an expert tool for exploring a dataset.

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[1] You can develop an interactive visualisation system using web technology (e.g., HTML or D3), but (a) you must obtain permission from your tutor first, and (b) the entire visualisation must be downloadable as a single ZIP file and runnable on any web browser without the installation of additional tools.

Quality not quantity: Your visualisation will likely contain between 3 and 10 charts or diagrams that you create. However, there are no minimum or maximum numbers of charts. Instead, we are looking for carefully designed and annotated charts that – in combination with text and possibly icons and pictures – guide the user through an interesting story.

Interactivity: Interactive features are easy to add in Tableau. Integrate interactivity where it makes sense, but do not just add interactive elements for their own sake.

Maps: Maps will be required for the second visualisation assignment (due in week 12). For this first visualisation assignment, it is recommended to use non-geographic idioms.

Copyright: You are encouraged to use icons and other simple graphical elements where appropriate. When using such elements, it is your responsibility to ensure you have the right to use them. Consult with your tutor if in doubt. You need to indicate the source and URL (if available online) in your report of any external element that you use. There is no need to indicate the source and URL for simple icons (emojis, coats of arms, trademarks, traffic signs, etc.).

Authorship: Since your visualisation is publicly accessible, you should indicate your authorship and the license under which you make your work accessible.

Plagiarism: We will follow up on any kind of academic misconduct. For this particular assignment, you cannot integrate non-trivial graphics (such as diagrams, charts, etc.) created by others.

Marking

This assignment is worth 20% of the final unit mark. A detailed marking rubric will be made available.

5 design sheet	2%
Visualisation	10%
Presentation	3%
Report	5%