Information Visualisation
Channelling Hans!
Assignment Description

Student Name(s)

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1 What Is the Purpose of Your Visualisation?

The purpose of my visualisation is to show whether there is a relationship between the under-5 mortality rate and life expectancy, over a period of time. It intends to be clear, basic and to allow the user to immediately see whether such a relationship exists and to what degree it corresponds.

My visualisation is a line graph, which partitions the data into country-based datasets. These can then be selected in order to display that country's trends in both life expectancy and mortality rate as two separate curves. Two axes are used to display the values for each of these lines. These axes are persistant across all visualisations in order to allow for clear comparison between sequential country selections.

2 What Similar Visualisations Exist?

Many of them. My choice of presentation is a line chart which is a simple, common method for displaying data over time. My choice of graph was motivated by it seeming like the clearest form of visual encoding for the question. While not adventurous, I felt that a line chart was the best solution as it gave clear visual encodings, answered the question in a way that I felt helped amplify understanding and did so in a minimal manner with no wasted elements.

3 Why Is Your Visualisation A Good Solution?

I think that my visualisation is a good solution as it presents a clear question and allows it to be answered quickly, clearly and with minimal processing on the part of the viewer. My specific question asked 'How much of the change in life expectancy shown in the Gapminder visualisation is due to increased child survival rates?'.

I considered alternative visualisations such as dynamic bar charts over time but this and other solutions seemed to bring excessive visual weight and unnecessary data to the solution. I wanted a visualisation which would keep a very low ink-to-data ratio and felt that a line chart answered my question clearly without requiring additional processing. Specifically, I wanted the visualisation to immediately answer the viewer's question without requiring them to expend effort decoding that answer.

I think that the visualisation clearly answers the question, answers it in an easily understood fashion and presents intuitive controls and transitions.

4 What Data Manipulation Was Required To Create Your Solution?

My data was sourced from Gapminder and modified from the dataset 'Child mortality (0-5 year-olds dying per 1,000 born)'. My modifications consisted of manipulating the data so that the layout matched that of the Gapminder data which we were provided with for the first question.

The original data presented a format consisting of the column names: Country – 1970 – 1971 … -2015. The Gapminder data has years in a specific column rather than a series of columns for the time series. I read the data in and reformed them to follow this format. Along the way I did some minor parsing with regular expressions in order to standardise certain naming styles so that they would be in the same format as Gapminder.

Lastly, the data being almost entirely matching, I manually changed one or two particularly awkward constructions. I then merged the csvs using the pandas library and worked from this dataset for both visualisations.

5 What d3 Resources Did You Use To Create Your Visualisation?

My primary resource was the D3 V4 API. Many tutorials were available which largely utilised V3 of D3. Having changed this, almost every article required reading through the D3 API in order to find out what had changed and where issues might be coming up. While frustrating, this was overall beneficial as it acquainted me better with the overall structure of the library.

Another key resource was the book 'Interactive Data Visualisation For The Web' by Scott Murray. This was extremely useful in developing basic fluency with D3 and shaped many of the practices of writing clear and non-repetitive code using the library.