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| **Visualizations** | **Criteria** | **Technical Description of what you implemented.** |
| **A** House Prices | Use of visual  channels | Two vertical bar charts were used to encode the prices of four housing types in London and Newcastle upon Tyne between 2017 and 2020. The bars are colour-coded by year using a tetradic colour set and grouped together by housing type, and by region. |
| Gestalt design  principles | Proximity is used to group together bars related to the same housing type.  Alignment is used to clearly visualize that London housing is significantly more expensive than housing in Newcastle upon Tyne, as well as that detached housing is more expensive than semi-detached, which in turn is more expensive than terraced housing, which in turn is more expensive than flats.  The bars appear to share a common baseline using continuity on the x-axis.  Similarity is used to group together bars from different housing categories by year.  Contrast is used to clearly separate the bars from the background. |
| Use of colour | A tetradic colour set was used, consisting of four colours separated by 60 degrees of hue: Stiletto, Sushi, Keppel, and Royal Purple. This ensures minimal information loss for users with dichromatic colour blindness and makes the visualizations more aesthetically pleasing. |
| Use of language in the visual and  narrative in the  caption. | Clear and concise labelling is used to entitle the whole figure, as well as the two individual bar charts. The y-axis is also labelled with the ticks marking the price in pound sterling (£). |
| **B** Broadband performance data | Use of visual  channels | A scatter plot is used to visualize the relationship between the broadband upload and download speeds, in various regions of the UK. The linear regression of the data points is visualized as a red line. The data points are slightly transparent with a thin black border to make discerning individual data points easier.  The points are also categorized by download speed using a categorical colour palette. The two most severe outliers are labelled with descriptions of their city, average upload and download speeds. |
| Gestalt design  principles | Similarity and proximity are used to group data points together, whereas contrast is used to separate the groups apart. |
| Use of colour | A semi-transparent categorical colour palette is used to group the data points, with two outliers coloured in non-transparent red to stand out. |
| Use of language in the visual and  narrative in the  caption. | The scatter plot is clearly entitled, with labels on both x and y axes. The outliers are labelled with detailed information about them, and a correlation value is written at the top left corner of the plot. |
| **C** Financial time-series data | Use of visual  channels | An OHLC (Open, High, Low, Close) chart is used to visualize a time series of the FTSE index between February 1st, 2020 and January 1st, 2021. An orange line visualizes the SMA (Simple Moving Average). Two dark blue lines are used to show Bollinger Bands, and the space between them is filled in in a semi-transparent blue hue.  A semi-transparent, grey, filled line plot is used to visualize the trading volume of the FTSE index. |
| Gestalt design  principles | Continuity is used to show the trend of the movement of the FTSE index. Contrast is used to show when the index increased or decreased in value during a single period between its market open and close. Using transparency, the Bollinger bands are in the background, whereas the OHLC graph is in focus. |
| Use of colour | Red and green is used to clearly differentiate whether the FTSE went up or down during the trading period of the day. The Bollinger bands are filled in with a semi-transparent blue, and the SMA is coloured a bright orange to clearly stand out over the OHLC chart and Bollinger Bands. |
| Use of language in the visual and  narrative in the  caption. | The OHLC chart is entitled. Since the index is measured in points, no labelling is required for the y-axis. The x-axis ticks show the date in year-month-day notation.  The filled-in line graph for volume is labelled along the y-axis, with dates on the x-axis. On the left side, the traded volume is annotated in mil. (for million units traded). |