DECO3100 A3 Documentation

For this piece of data journalism, I wanted to show how Obama and Trump used Twitter and social media during their presidency. As shown by Morris (2017), the story also highlights the necessity of Twitter as a platform for political success as it can be as impactful as traditional media. However, such tools can be used for nefarious purposes, including misinformation, disinformation and hoaxes, which can lead to violent protests and in the case of COVID-19, cause preventable deaths (CNN, as cited in Barua., Barua, Aktar, Kabir and Li, 2020; O'Brien & Alsmadi, 2021).

As suggested by Rosa (2016), the website allows the reader to participate through interactive graphs that encourage exploration and also engages the reader through images. The text is segmented into sections with using descriptive headings, visuals and spacing to improve readability and comprehension (Kucheriavy, 2019). Furthermore the website text uses simple language, sufficient text-to-background contrast, minimises line width (less than 80 characters as recommended by W3C guidelines) and paragraph length to improve readability, accessibility and comprehension (Kucheriavy, 2019; "Styling", 2014).

The website used Obama and Trump's presidential tweet data in two ways. First is a bar graph revealing the difference in daily tweet activity between each president and trends in tweet activity over time. Second is a scatter plot showing tweet sentiment over time and number of tweets for each president. Users can also filter the tweets by topics (key words) and see changes to the average tweet sentiment and number of tweets. Following Jakob Nielsen's (2020) usability heuristic, "Recognition rather than recall", the Obama and Trump graphs are next to each other to allow for easy side-by-side comparisons of the tweet data.

The website was evaluated using a think aloud to observe user behaviour and measure success when given tasks involving interpretation and interaction of the graphs (Nielsen, 2012). Then the System Usability Scale was used to evaluate the usability of the website as a whole ("System Usability Scale (SUS)", n.d.). This was supplemented with a semi-structured interview to capture the user's attitudes regarding the strengths and weaknesses of the website (Pernice, 2018).

Four users were tested and testing was stopped as minimal new insights were gained (Nielsen, 2012). All users were able to complete the think aloud tasks successfully. The first two users had an SUS score of 67.5 and 60, indicating a below-average rating (given 68 is the 50th percentile) and the last two users had an SUS score of 90 ("System Usability Scale (SUS)", n.d.). The interview revealed that User 1 found the article "interesting and [that it] has [a] good narrative" but "the interactive part was quite hard to navigate" and the search function was "quite hard to see at first". Thus the interactive tweet graph was changed to improve navigation and comprehension - the user could now use a dropdown to simplify interaction and the tweet data source was changed from t-SNE to the presidential tweet data using sentiment and date as the axis (Li, 2017). User 2 liked the "the overall layout of the page" but felt that the interactive graph could be improved and SUS responses indicated indifference. Annotations showing the number of tweets and average sentiment were added to make insights more discoverable ("Three Ways to Annotate Your Graphs", 2018). All users complained about the heavy amount of text and thus text was reduced and more images were added (Kucheriavy, 2019).

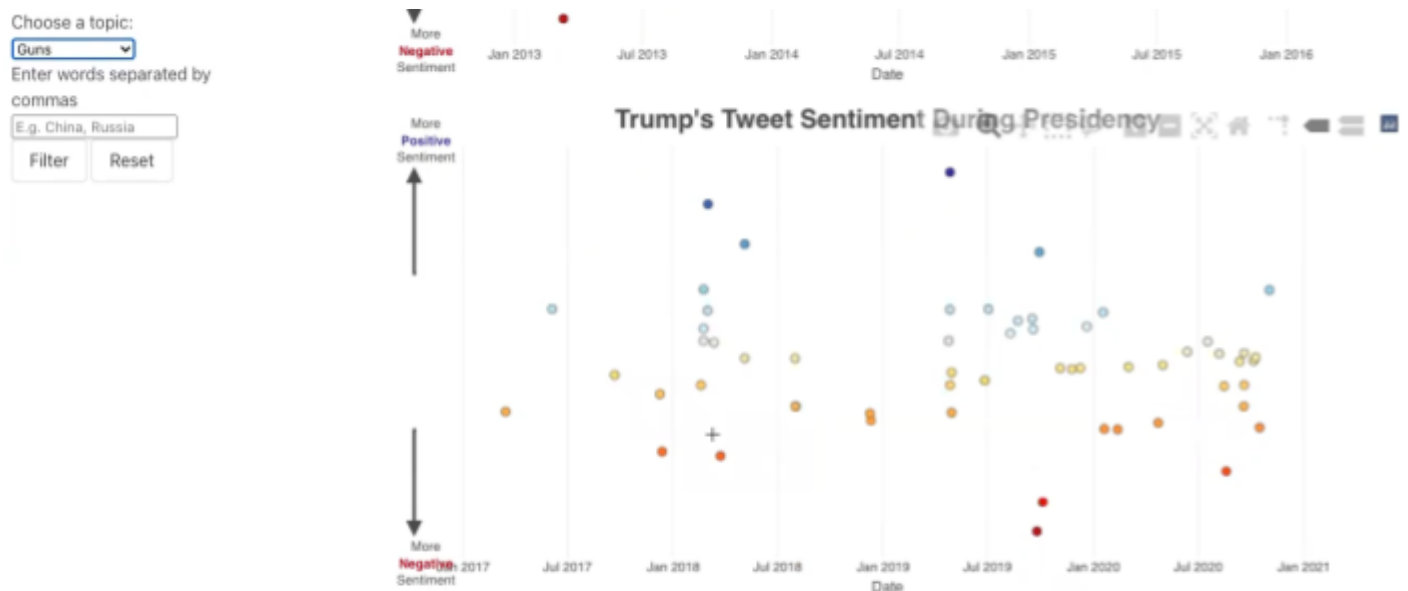Figure 1: Screenshot of User 1 using Interactive Tweet Graph

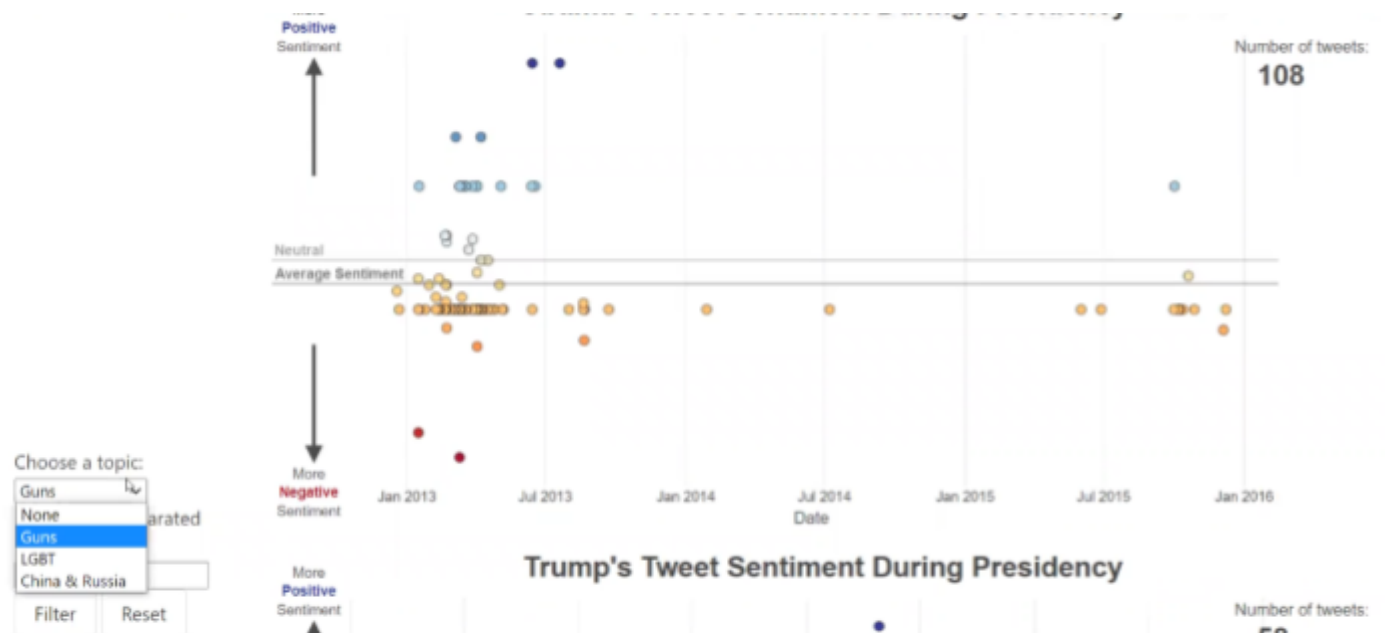Figure 2: Screenshot of User 2 using Interactive Tweet Graph

Figure 3: Screenshot of User 4 using the Interactive Tweet Graph

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