

A Narrative Visualization Exploring Global Terrorism

To many living in privilege and relative safety in first-world countries, terrorism is often thought of as a rare and occasional tragedy—an act of god with devastating consequences such as the immortalized 9/11. In truth, it is a culture of fear created by constant smaller attacks on people with little voice to represent them, as shown by this narrative visualization.

Structure and Scenes

The structure of the visualization is an interactive slide show, utilizing four slides with a different type of graph for each, all with a method to drill down and explore. The first line graph uses a brush technique to zoom in on the timeline. The second graph, a scatter plot, gives additional information on each point when moused over. The third graph is a histogram in which the number of bins may be changed. And the final bar graph can be transitioned to show three different datasets.

These scenes and graphs follow the narrative idea of getting the bigger picture before looking into the specifics. The line graph of the number of attacks over time shows the overall increase of the number of attacks before the following scatter plot of the number of terrorists to victims shows the smaller scale of most attacks. The third scene of a histogram of monetary damage further reinforces that point, before the final scene of the bar graphs explores the types of people and the countries that suffer the most.

The visual structure is simple to follow, with the chosen graph displayed most prominently at the top, with no visual interference. The title of the slide follows, along with a simple line of instructions for how to interact with the graph, then a short text description to construct the narrative throughline. At the bottom is slide navigation, allowing the user to go to the next or previous slide. With such a simple presentation, all with the same format and no distracting transitions, focus and attention are drawn consistently to the large graphs at the top. Using striking colors with relevant symbology also draws attention in symbolically appropriate manners. Red is used for the increasing danger, black for the death toll, dollar green for money, and traffic-sign yellow for warning.

Parameters, Triggers, and Annotations

The parameters and triggers of the narrative visualization are simple and appropriate for each graph type, with simple instructions under the scene title to communicate how to interact with the graph. The first graph is a line graph of the number of attacks over the default total state of the period 2000-2020. A brush can be used to select an interval on that graph and thus trigger a zoom-in on that area, shrinking the state shown. A double click reverts the graph.

The second graph has no alterable parameters, but the max of the x and y axis is set to 50 to ignore the outliers of larger events to focus on the smaller attacks. Annotations can be triggered by the mouse over the dots to enhance the visualization. The opacity of each dot is higher relative to the number of attacks, which is good for a general impression but not for specific details. Therefore, when a dot is moused over, annotations appear at the bottom of the graph to avoid clutter and provide information on the specific coordinates of the dot and the number of attacks represented by the opacity. The reveal of the unexpectedly high number of attacks also helps in conveying the narrative intent of shock and surprise.

The state of the histogram may be altered by editing the number of bins, triggered by a dropdown menu. The default selection of 20 bins shows the best overall distribution, but further increasing the bins allows greater specificity to understand just how many attacks are low impact in monetary damage. The max of the x axis of dollars in property damage is set to one million for the same reasons as the previous graph.

Finally, the individual bar graphs parameters are strictly set due to their categorical nature, but the state of the bar graph transitions between said bar graphs with the trigger of buttons at the top of the screen. The default ordering of these buttons promotes the intended narrative reading, first looking at the types of attacks, then which type of people the attacks most affect, then finally the countries most affected.