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Narrative Visualization Essay

Messaging

My narrative visualization is intended to communicate the attributes that are correlated with burnout, to allow viewers to better understand them and seek to avoid it for themselves or their employees.

Narrative Structure

This narrative visualization was constructed with an Interactive Slideshow style visualization structure.

Visual Structure

Each ‘slide’ consists of a text box, a dropdown box, and a chart. The text box is demarcated from the rest slide by a gray background. The text prepares the viewer to understand the information being visualized on the chart, and gives instructions on how to interact with it. The majority of the slide is the chart portion, which indicates its importance to the viewer. The charts of have a simple, clean appearance, consistent from slide to slide. The slide arrangement and color scheme are consistent throughout, so that the viewer is able to transition to the next slide and quickly be ready to explore the next visualization.

Scenes

This narrative visualization consists of four scenes. The first is an introductory scene, which sets the stage in terms of relevance and importance of the burnout problem. It then introduces the dataset and prepares the viewer to explore it by detailing its fields/attributes.

The second scene has a pie chart that shows the percentage break-down of the selected categorical attribute, with annotations. Users can interact with this chart by selecting the attribute to be visualized. They are also able to mouseover the pie chart segments and get the exact percentages in the tooltip. This scene is intended to give the viewer context of the data and its fields before they start exploring the relationships to burnout.

The third scene has a bar chart showing the average Burn Rate across the categories of the categorical variables, with annotations. Users can interact with this chart by again selecting the attribute to be visualized. They are also able to mouse over the bars and to get the numerical value corresponding to a given bar. This scene is the first scene where users start exploring the actual relationships between the various fields and the Burn Rate, and they have the opportunity to see which personal/professional attributes make a difference (causal or correlation; that question is not answered here) with Burn Rate, and which do not.

The fourth and final scene is a scatter plot plotting the continuous quantitative fields against Burn Rate, with annotations. This lets users explore which continuous attributes have discernible trends and which do not. Once again, user interaction is achieved with a dropdown box that toggles the attribute to be charted, and also through tooltips on the points.

Annotations

Each version of each chart has its own annotation that guide users to observations. Each scene has multiple observations to guide users through their exploration of the different data attributes presented. Each observation supports the central goal of the visualization: to understand contributing factors to burnout, with the goal of preventing it. Annotations were executed using the d3-annotation library from Susie Lu.

Parameters

The primary parameter of this visualization is s**electedOption** (carried through in the plotData function of each scene as ‘xField’; the misnomer is a development artifact). This sets the attribute to be charted. Scene stepping is achieved with buttons linking to the following or previous page. The state of the visualization can best be described as the current scene (ie page) plus the attribute to be charted.

Triggers

The trigger available in each scene is the toggling of the attribute dropdown box. This creates a callback to the dropdownChange function, which redraws the entire chart with the new attribute data. The dropdown box is a standard and well-known UI component; users are well-acquainted with the affordance of the down arrow to let them know click and view all the options.