Narrative Visualization

By Upendra Singh Yadav (usyadav2)

Messaging

This narrative visualization is showing the coronavirus cases trend in the U.S. and its each state. it is also covering coronavirus death trend over the time in each state and U.S. map chart provides overall picture of covid-19 situation.

Narrative Structure

This narrative visualization follows interactive slide show narrative structure. It has three scenes, and in each scene, user is given power to explore or drill down by clicking on each state in the map view or by selecting state from provided state dropdown list. By definition "an interactive slideshow is, where user exploration is allowed at some or all of the steps".

Visual Structure

In this narrative visualization, all three scenes use same background color, font size and chart size to provide consistent visual structure.

First scene uses U.S. map chart to provide user a glimpse of coronavirus situation in each state with the blue color gradient. On mouseover, mouse pointer turns into hand symbol to indicate that user can click it to explore the data for that state. When user clicks on state it takes user to second scene, so this ensures smooth user navigation between scenes.

Pagination is also provided on the right bottom corner of each scene for better user navigation between scenes.

First scene is a color gradient map which shows the spread of covid-19 cases and on mouseover user will see the tooltip as well this provides user a better understating on data.

Second and third scenes have line chart which shows the trend and on mouseover tooltip appears which provides an opportunity to know more.

Annotations are also provided on first and second scene to highlight the important data points where user can view the important information.

When user clicks on any state in map chart of first scene it takes user to second scene with the clicked state and provides the information for that state. And when user clicks pagination button 3 in second scene it takes user to third scene with selected state and user will see the information on third scene with that selected state. So, the state name connects scenes in this narrative visualization. That's how the viewer transition happens between scenes and helps to understand the data in other scenes.

Scenes

There are three scenes in this visualization,

Scene1 has U.S. map chart with steel-blue color gradient which shows the spread of coronavirus in the country. When user mouseover the chart it shows tooltip with the information of total

cases and death count on hovered state. On mouseover, the pointer also tuns into hand symbol to indicate the user to click and explore. Annotations are used in this scene to draw user's attention for important information on mouseover event.

Scene2 tells about coronavirus cases trend for selected state from scene1 or from state dropdown of scene2. It also shows the coronavirus cases trend for whole country if "All" is selected from dropdown or user clicks pagination button 2 from scene1. Annotations are also used in this chart for important information. Here also, same annotation template is used for consistent visual structure.

Scene3 is also a line chart which shows the trend of deaths caused by coronavirus for selected state form scene2. Here also user can see the deaths trend for whole country by selecting "All" from dropdown list in this scene or coming from scene2.
All these scenes give user a power to explore more by providing dropdown list of states and mouse-click on map chart.

Why all these three scenes are ordered in such manner because scene1 provide overview of coronavirus situation in U.S. and its states but does not provide trend for any state or whole country. Scene2 provide coronavirus cases trend for each state and for whole country as well. So, when user sees scene1 he/she can drill down according to his/her interest of state or whole country as well. Scene3 is last which shows the deaths trend for selected state. This scene order provides user a better understanding of data and transition through scenes.

Annotations
Orange color circle is used for annotations in this narrative visualization. All annotations are used to urge the viewer to find out important information. When user mouseover that circle important information is presented with orange color line and black colored text. Consistent template is used for all annotations and annotations are visible when user looks on the scenes because they have different color. We used this template because it provides better visual structure.

Parameters
Parameters are variables used in chart and controls scenes and chart elements. Here, U.S. state name is the parameter which is used in scenes. State name is passed from one scene to another scene and data is displayed related to that. Pagination buttons represent states in this narrative visualization, button 1 is corresponding to state1 which is scene1 with selected parameter (U.S. state name). so, the button2 and button3 are.

Triggers
This narrative visualization has two type of triggers one is pagination and other is mouse click. Pagination buttons are provided at the right bottom corner of each scene where highlighted button represents current scene and grey buttons can be clicked to navigate to next scene. User can click on any U.S. state in map chart to explore the data.