CS416 Data Visualization

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Messaging

The messaging I would like to communicate with the narrative visualization is to investigate the global development trend by using the world bank GDP data from the year 1960 to 2021.

Based on this data, we could easily find the global GDP growth most of the time with some time decrease because of the recession. We will look into how the recession impacted different kinds of countries, how to impact the top countries.

Narrative Structure

The narrative visualization is designed to follow interactive slide show. For this slideshow gives the opportunity to drill down in the particular slide and then takes to the next slide when we need to investigate the detail. Firstly, we have the high-level global GDP growth trend from 1960 to 2020, find the recession from 2007 to 2009. Then we break down the different income groups to analyze the impact of this particular recession. Finally, to look into the impact of the top 10 countries for more detail of this recession.

In this visualization, the views is following a predefined path: global GDP -> different income group GDP from 2008 to 2009 -> Top 10 countries GDP from 2008 to 2009.

Visual Structure

To ensure the viewer can understand the data and navigate the scene, I provided consistent visual structure.

At the top of the report is to describe the data, the purpose and the next step we can do more investigation.

After that, there is a view that we can better understand the data with highlight annotations that the viewer may be better attracted, meanwhile, I provided the tooltips that help the viewer to better understand the data.

At the bottom of each scene, we have the button that viewer can go forward or back to each scene.

Scenes

There are three scenes in this narrative report, for I used the "Interactive Slide Show", the viewer is guided from scene to other scene by the "previous" or "next" button.

Scene 1:

Describe the global GDP growth trend from 1960 to 2021 with the world bank's official data. From this scene, we can see that the global economy growth at most of the time. However, there were three big decreases recently, which is from 2007 to 2009, 2014 to 2017 and 2020 to 2021. I highlight the first drop of GDP with an annotation that led the viewer to look into the impact of this recession by different income groups in scene 2.

Scene 2:

In scene 1, we found there are three recessions recent decade, and highlight the first one from 2008 to 2009. So, we drill down to see how the recession impacted the different income countries. From this scene, we can find that the "high income" countries had the most impact by the recession, and "upper middle income" countries still had drop just less than "high income" countries. We know that the recession was from the house bubble in the USA, and then spread out the global. Based on the idea, this scene led the viewer to the top 10 countries to see details for most of the top 10 countries were high income.

Scene 3:

As expected, most of the top 10 had decreases from2008 to 2009. However, the good news was that China and Japan gained increasement. The increasement in Japan was only 3.57% that couldn't impact the whole "high income" countries; and the China gained about 11% increasement from 2008 to 2009, because China is the biggest countries in the group of "upper middle" group, that's the reason the data doesn't looks too bad, and help the world recover from the recession.

Annotations

I mainly used the text to convey the importance message for the scene, at the same time, to help the view better understand the chart, I still used the different color and shape to display the annotations, that viewer could easily got the most important information. Meanwhile, I used the tooltips to help the viewer to check the GDP for each data point.

Parameters

To help move from scene to scene, I used the buttons as the parameters. All of the scenes have the parameters(buttons) to go to the previous and next scene. For this is the narrative report, the viewers don't have the option to drill down different data, different scene with different data controlled by each button.

Triggers

We use the button as the triggers to interact with parameters and change to different scene. I add the button in the same place with "previous" and "next" to help the viewer to navigate to different scene and drill down to the detail.

Narrative Visualization

https://wenlong0213.github.io/index.html