

Notetaking

Warm-up Activity included 3 dynamic visualizations.

1. The first one was an interesting visualization depicting in 3 forms. The main idea of the visualization is to show the differences in the figures of actual causes of death to the factors people worry about like terrorism, etc.
2. The second one shows the busiest times that commuters travel to or within the New York city on an hourly basis.
3. The third one was transformation of metro map in Berlin from a simplified view to the actual view.

There are 3 classes of visualization: Visualization for self, visualization for experts and visualization for public.

Visualization for self:

When we make visualizations for self, it is acceptable to make a kind of minimum viable product. It is not necessary to use aesthetic colors and palettes. Latency or lag in the visualization is also not a concern here. The main purpose of these visualizations is to convey the brief idea of our research.

The first example shown in the class was a 2d plot developed using 3d software to make the datapoints to look like bar charts. It is hard to visualize the actual plot as the bars were plotted in blue on a black background. The idea behind this visualization is to make us understand that aesthetics is never a concern when we are drawing visualizations for ourselves.

The second example can have visualizations from multiple perspectives. One among them is to see the trends of deposits and withdraws of a bank database.

The third one can also have various interesting visualizations from multiple perspectives. One is to compare plant species with their growth over time. Another interesting idea would be to compare plant height to its average leaf size among different plant species.

Another example was a scientific visualization on simulation of galaxy. The interesting corners to investigate this could be to use a 3d scatter plot to plot the stars basing on their position (x, y, z).

Shortcuts

When the data is large to build a story, taking a sample of datapoints and visualizing them could be a shortcut when performing visualizations for self.

Visualization for Experts:

Here the visualizations are made for experts in that field or domain and presented in a conference or meeting.

Experts usually prefer to create linked dashboards, text and color bar annotations, comparison charts. Unlike visualizations for self, visualizations are viewed from outside the box.

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The example visualizations included orientations of gas particles from top-view to side view using a rainbow color map. Other examples included genetic networks and outward movement of contaminants of flu from Chicago to rest of the country.

The most common thing in all these visualizations is they are heavily annotated with technical jargons.

Visualization for Public:

When visualizations are presented to public, it is the responsibility of the developers to explain the jargon. As humans are comfortable to stories rather than facts and figures, it is important to tell a compelling story when presenting visualizations to public.

An example visualization for public is simulation of formation of moon. Time context is lost in this visualization as it takes millions of years to moon to form.

Some tips

- Choose colors and shapes which makes meaningful conclusion from narrative.
- Aesthetics, time lags bugs matter
- Choose appropriate color palette

Storytelling

- Know the audience
- Images speak more than words
- Context is important

Idyll and D3.js are used to build interactive and dynamic visualizations.

D3 js requires knowledge of HTML, JavaScript, SVG and CSS.