

Draft on the Project Proposal v0

As an HCI student I plan to focus more on the UI part of data vis, which is the presentation part. And I will focus on the web end since I am a web developer.

As an infovis Project, one key problem at this moment is the dataset. I don't have a particular dataset to be investigated, and that's the part I wish to get some advice from you as well. However, I do have preference on what the data structure is: The data I am interested is the one with hierarchy. The hierarchy can be both in the data structure itself as well as the presentation.

For example, when I interviewed with Uber, they asked me a question about how to show the uber rides dynamically on a 2D map. A 2D map can be zoomed in and zoomed out. The question is whether we are going to show all the details traffic data at any scale? Or, by what we discussed, change the data vis format based on the scale. For example, when we zoom out to see Atlanta as a whole, we may only want to show a heat map based on counties. If we zoom in to a specific location, we want to see the every single rides in details. Another example is the sunburst you showed us in the class. Again it is about changing the hierarchy in the data structure into a more intuitive UI.

Another problem of interest for me is the design of dashboard. When I interned at Cvent.Inc, a cloud based event planning website, I got a chance to assist in making the dashboard for the database of the company. I also learn from Uber that they are doing the same projects. A well managed dashboard is not only good for data vis but also a good tool for management and communication. However, there is not a specific guideline for doing that in an enterprise level.

I do agree with you that if the problem can be articulated very precisely then data vis might not be a good choice, but for a research project I do need a specific question to work on, and that's what I have to discuss with you. To sum up my interest:

1. Presentation of data with hierarchy (2d map based data / with interaction zoom in/out)
Can be traffic data based on 2d map or even 3d using WebGL, the problem is the interaction
2. Usability principles of the dashboard design
Brush and linking between different formats of graphs, how to categorize the data? one page or multiple tabs? collaboration? The efficiency of the dashboard in terms of T+I+E+C?

As a HCI research project, user testing is also a requirement. While making cool stuff is an important goal of the project. One valuable question in terms of HCI user testing is to quantify how valuable the data vis I made in terms of the "T+I+E+C" principles by HCI testing.

References

John T. Stasko EuroVis 2014 Conference Capstone invited lecture

<https://vimeo.com/98986594>

Tableau : Best Practices for Creating Effective Dashboards

http://www.tableau.com/sites/default/files/media/whitepaper_6bestpracticesforcreatingeffectivedashboards_engfinal.pdf?ref=lp&signin=5bf7c9ba89fc2b8d33e8dd506b0d2940