CS-171 Visualization
Expert Evaluation

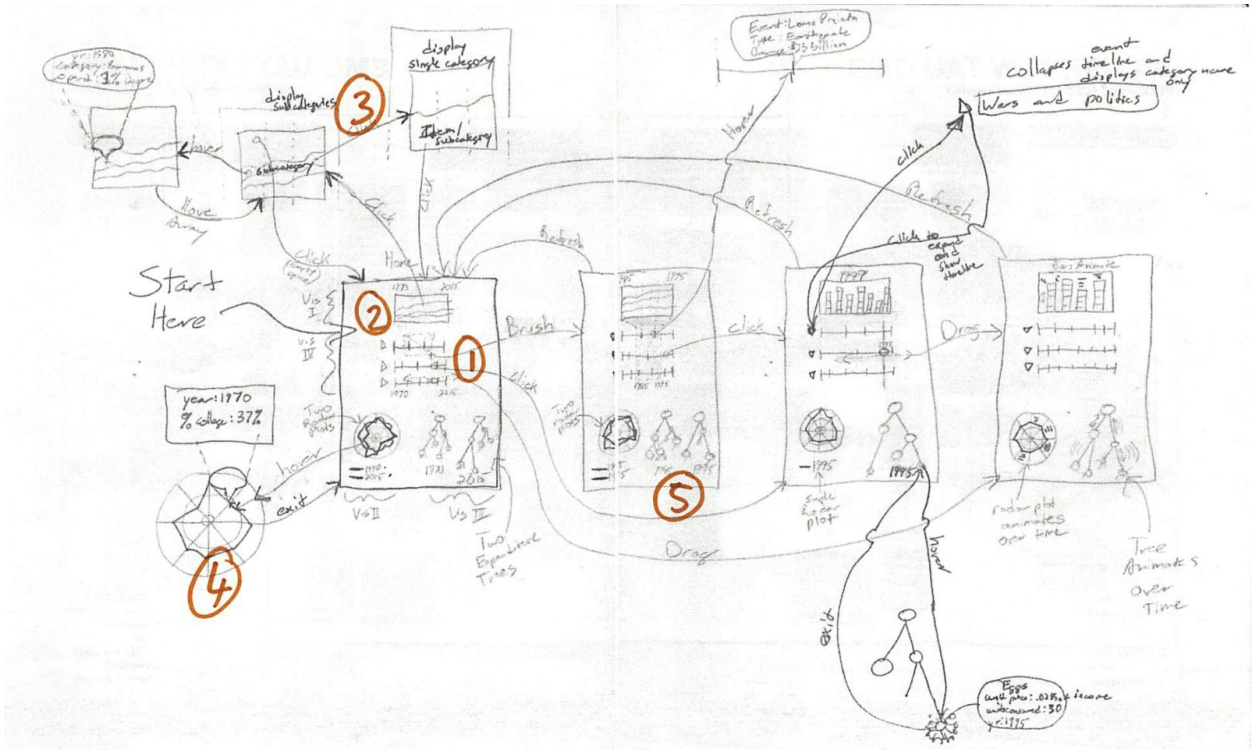
Reviewer: The Free Radicals (Online Studio 1, Group 1)
Under review: Melodic Transport (Online Studio 1, Group 6)

General thoughts:

You project includes a lot of interesting data visualization and interactions which will definitely give the user a lot of options to explore the data and make their own conclusions. We think your project would be even stronger if you were able to improve the **storytelling** side. For example, could you pull out some interesting stories or results from your own exploration of the data? This would show the reader what is possible with the tool you have developed (tacit tutorial) and also stimulate them to think about other connections and trends that might be interesting for them to explore.

How are you dealing with inflation? Is the BLS dataset already inflation adjusted? If so it would be useful to show the index year for dollar prices so this is clear to the reader.
Severity rating: 0

The following comments correspond to the numbered items highlighted below:



1. You have a lot of interactive elements which provide some excellent functionality. We think it would be useful to think about how you convey to the reader which elements are interactive, so they don't miss any of your cool features. Perhaps some icons for the charts and slider bars for the timelines. You may have already planned these and we just didn't pick up on them from the sketches.
   Severity rating: 1

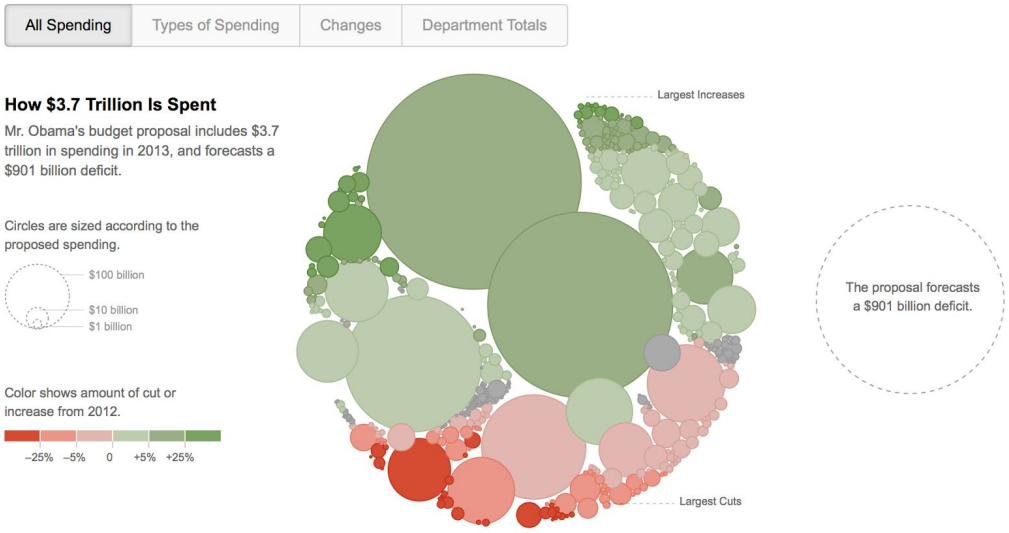
2. How are you defining spending, by household or by individual?
   a. If by household, how will you deal with households where the mother and father have different race or education level (thinking of the radar plot here)?
   b. If by individual, how will disaggregate their spending from the family as a whole?
      Severity rating: 0

3. We like how you can drill down into each category to move from the stacked layout to individual area chart. This is a great way to show the collective trend while also allowing the reader to estimate the trends more accurately with an isolated view of the data.
   Severity rating: 0

4. The radar plot should be quite an effective way of showing how the breakdown of respondents has changed over time. Have you thought about including gender as one of your categories? If the breakdown of respondents is significantly different over time, have you considered how this might skew the results?
   Severity rating: 1

5. The force directed tree diagram is the only part of the project that we had some trouble with. From our reading of the storyboard it seems like this is the only visualization where the reader can compare before and after costs side-by-side, however in our view this visual encoding has some limitations for quantitative comparisons. Firstly, the layout of the force directed tree will be different every time it is called, making a side-by-side comparison difficult, but you might be able to get around this by making the tree sticky. The bigger challenge will be for the reader to accurately compare the area of nodes as a way of calculating *unit price of expenditure as % of income,* especially when the eye must pass over several other node circles before making the comparison.
   Severity rating: 2

One idea to consider might be to use a packed circle visualization where the size of the circle is the *unit price of expenditure as % of income* for the end year, and the color indicate the change from the start year. NYT did a nice version of this for the US federal budget...just and idea:



Alternatively, small multiples showing the change over time might be quite effective, and could be nested in the tree structure you already have: