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# Final Project Proposal Spring 2017

**## Problem / Question**

KB: I propose developing an application that visualizes demographic panel data of one province (or more) in Afghanistan from 2011-2016. Afghanistan contains an incredibly diverse population that has been subject to a myriad of exogenous shocks over the past year. I would like to attempt to visualize the story of a changing Afghan population in one province in an easy-to-understand but visually compelling way.

In addition to the country’s incredible population diversity, one of its most distinguishing characteristics is its geographic and topographic wealth. These attributes are commonly overlooked and hold significant explanatory power in understanding much of the country’s recent history. I’d like to find a way to visually link the population data with the geographical orbit.

**## The data**

KB: I've been compiling a dataset of survey data from across the country that contains demographic and public opinion variables since 2011. I have a .csv file with more than 40,000 settlement coordinates to merge with the survey data. I will need to be judicious with the variables that I elect to include so that I can succinctly tell the emerging story, which remains to be known. The variables span standard demographic indicators [age, gender, religion, income, education] and a wide variety of behavior and opinions [perception of government, biggest challenge, religious practice, to name a very select few].

**## Technologies used**

KB: In honest terms, I’m still not terribly comfortable with mapping libraries outside of Leaflet. That said, I don’t think the standard tiles will be complement the data and story I plan to convey. From my elementary perception, CARTO seems to offer some promising map styles, and more importantly, dynamic [panel] data visualization options.

I’d like to find a map style that can support high-resolution satellite imagery of rugged mountains, wide desert plains and river systems. To visually support claims from the data, I’d like to zoom close into one or two villages and present some data specific to that village. I’d very much welcome suggestions for a library that would support this type of imagery.

I imagine I will need to draw upon ajax to parse and transform the geoJSON data file that I will produce from the .csv of coordinates and survey data. To filter the data appropriately, underscore will also likely be useful.

**## Design spec**

**#### User experience**

The audience for this app is admittedly narrow. Demographers or migration specialists might find it useful to see how the population has changed over time. Military strategists may also find it helpful to understand how ethnic clusters are spatially related and may have changed. I’d like to imagine that any curious soul who wants to learn about a forgotten but fascinating part of the world could glean something informative.

- Are there any website/application examples in the wild to which you can compare your final?

**#### Layouts and visual design**

If I can pull it off, I’d like to alternate between 1) a full screen shot of a prominent geographic feature and 2) a zoom in on a specific village. For example, display a lush river valley and then zoom into a village along the river. On the village-specific slides, I’d like to use a modal to provide some data about that particular village. I’d also like to produce 1-2 pages with a dropdown filter to display the demographic data and/or opinion behavior variables to display for all of the available points.

I envision the story-telling part of the app having limited interaction apart from an ADVANCE arrow. The full data section will have dropdown where the user can select variable(s) to display and zoom around as desired. It shouldn’t be too difficult to add a pop-on upon while hovering.

**## Anticipated difficulties**

This honestly sounds a tad daunting. I do have more confidence that I could complete the story-telling part of the app without too much misery as it would follow a similar model to the midterm. Combining this with the full, interactive map and dataset appears more arduous. I don’t think the “slide” model would work in this case and I’m not sure how to combine two different app infrastructures.

Lastly, I admittedly do not have the design experience to produce beautiful deliverables like my talented classmates. It’s not uncommon that some of my headers are off center, lack a border, or just generally don’t look terribly polished.

**## Missing pieces**

Much of the technology we’ve used is designed for urban mapping. I’m curious to see what options exist for mapping of natural environments with the level of detail granularity of an urban environment. I’d like to be able to identify a sandbar as we would a street median.