Immigrant Populations

CS 171 Final Project Proposal

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Background and Motivation. *Discuss your motivations and reasons for choosing this project, especially any background or research interests that may have influenced your decision.*

As the descendants of immigrants who came to the United States, we are fascinated by the stories of our ancestors and how they fit in with the larger movement of human migration. Global immigration trends influence not only country demographics, but also culture, economy, and religion. During Kristina's semester abroad in Argentina, Senegal, and India, she wrote a major research paper on Chinese immigration trends to developing countries. Sierra is a secondary concentrator in History and is currently taking two history seminars that examine the perspectives of immigrants and minorities of the U.S., one of which is perhaps the only Asian American history class offered at the college.

Project Objectives. *Provide the primary questions you are trying to answer with your visualization. What would you like to learn and accomplish? List the benefits.*

1. What are the demographic characteristics of immigrants living in OECD countries?
2. How do trends in immigration from certain countries to the U.S. link with emigration trends from other countries?

Answering these questions will help us learn about what types of people migrate and for what reasons, as well as what patterns exist in immigrants' country of birth, age, gender, labor force outcome, and education level.

Data. *From where and how are you collecting your data? If appropriate, provide a link to your data sources.*

Our data is sourced from the OECD's Database on Immigrants in OECD countries. The new Database on Immigrants in OECD Countries (DIOC) provides comprehensive and comparative information on a broad range of demographic and labour market characteristics of immigrants living in OECD countries. The database has been compiled in collaboration with OECD national statistical offices. The main sources of data are population censuses and population registers, sometimes supplemented by labour force surveys.

The DIOC includes information on demographic characteristics (age and gender), duration of stay, labour market outcomes (labour market status, occupations, sectors of activity), fields of study, educational attainment and the place of birth. The reference year of the data is the year 2000.
http://www.oecd.org/migration/mig/databaseonimmigrantsinoecdcountriesdioc.htm

Data Processing. *Do you expect to do substantial data cleanup? What quantities do you plan to derive from your data? How will data processing be implemented?*

The DIOC data is provided to us in four large .csv files. Data will need to be cleaned up initially in a form that doesn't compromise our raw data. We will write a script to convert the data we need into a static JSON file that we will use in our visualization.

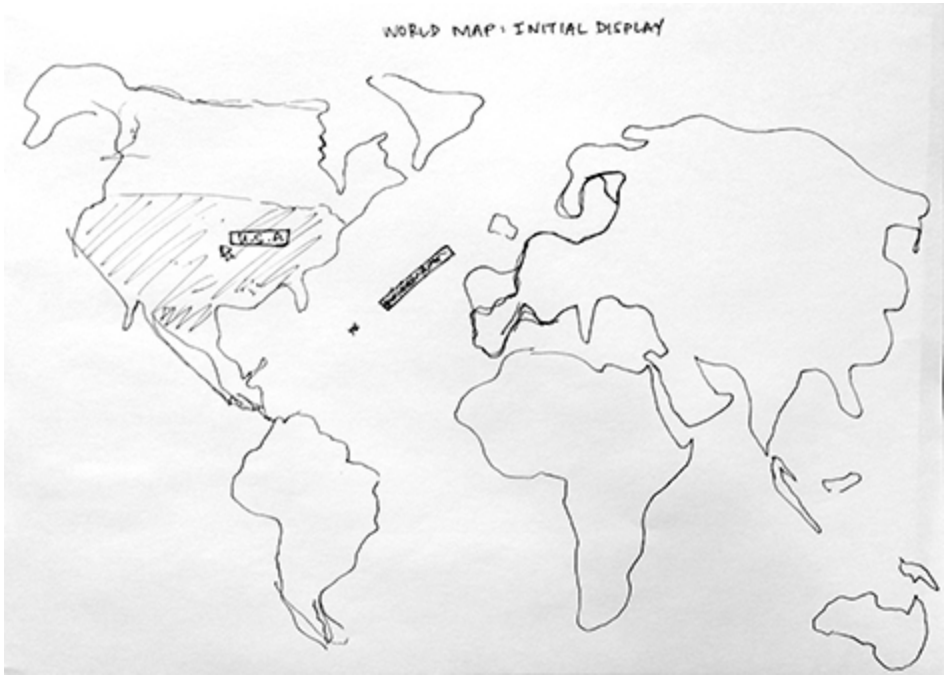
Relevant quantities: country of residence, country of birth, gender, education level, age, labor force status

Visualization. *How will you display your data? Provide some general ideas that you have for the visualization design. Include sketches of your design.*

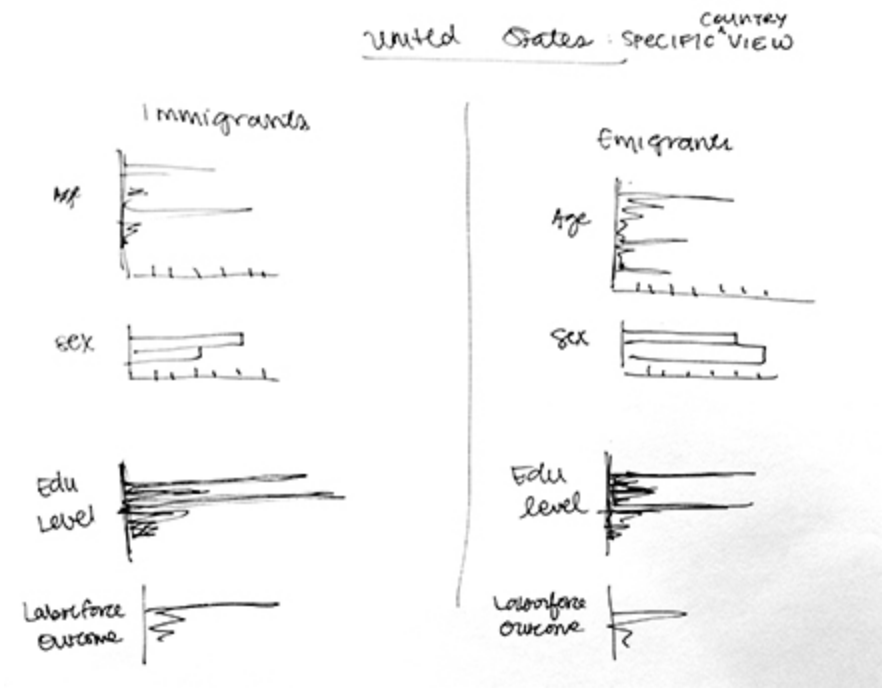
The data will be displayed beginning with an interactive world map. Users can click on a country and a new view will be generated displaying the country's immigrant and emigrant population visualization views. A country's immigrant population view (if the country is an OECD country) will include bar graphs on age, gender, education level, labor force outcome, country of origin, etc.. A country's emigrant population view will include bar graphs displaying much of the same data as the immigrant view, except country of origin is replaced by country of residence.

Below we've included a few sketches of what this will look like. Of course, the interactivity and sleek design we intend to include cannot be represented very well in these paper sketches.

Sketch 1: Initial world map display, with hover over U.S.A



Sketch 2: Specific country display with graphs displaying additional, processed data



Must-Have Features. *These are features without which you would consider your project to be a failure.*

- Interactive World Map
- For each OECD country: immigrant population view
- For all countries: emigrant population view

Optional Features. *Those features which you consider would be nice to have, but not critical.*

- Labels or popups on mouseover to show extra quantitative or qualitative information about certain migrant groups/countries
- Filter by age, gender, education level etc.
- Effects to focus the user's attention on specific patterns
- Animations to emphasize certain trends

Project Schedule. *Make sure that you plan your work so that you can avoid a big rush right before the final project deadline, and delegate different modules and responsibilities among your team members. Write this in terms of weekly deadlines.*

- By Friday, 4/10: Finish data processing and set up basic functionality, libraries, etc.
- By Friday, 4/17: Complete must-have features
- By Friday, 4/24: Revise must-have features, add optional features
- By Friday, 5/1: Project due