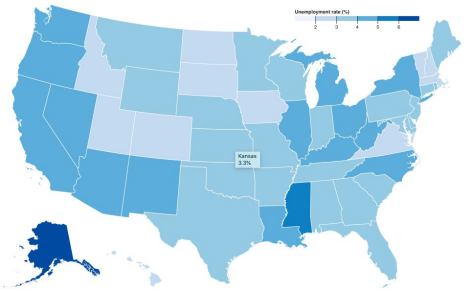
Team Raduckal
SoftDev1 Pd01
P04 – The Design Document

PM	Yaru Luo	yaruluo@github
	Peihua Huang	phuang00@github
	Jackie Lin	jlin00@github
	Emily Zhang	emz1003@github



Project Name – The ConCensus

Communication App: Discord
Frontend Framework of Choice: Bootstrap
We decided to use Bootstrap mainly because we have more experience in Bootstrap. We are more comfortable with the grid system of Bootstrap more than Foundation. In addition, all of us prefer the aesthetic of Bootstrap.

Description

Our project makes use of census data compiled from 2017, sourced from Kaggle.com. The data contains a wealth of information, from gender ratios to median income statistics. This information will be represented in a variety of visualizations, including bar charts, pie charts, and choropleth maps. To encourage user interactivity, users will be able to navigate between different visualizations as well as choose between display options.

Project Timeline

A. Minimum Viable Product (5/5)
- Bubble chart for population by state (5/4)
- Horizontal bar chart for population by county (5/4)
- User input to select specific state to display (5/5)

B. Expected Product (5/9)
- Pie chart for citizen percentage of each state (5/7)
- Vertical bar chart for median income of each county (5/7)
- User input to change display options of bar charts (D3 transitions) (5/9)

C. Additional Features (if time permits) (5/11)
- Users will be able to select states to view via choropleth map (5/11)
- Radially-stacked bar chart for ethnicity by state (5/10)
- Double bar chart for gender ratio by state (5/10)

Dataset Usage

US Census Demographic Data: Country Data (acs2017_country_data.csv)
We will have a parser.py file to parse through the csv data. There will be two main functions that will:

A. Organize Data by State
- The data will be organized by states, instead of individual counties

B. Organize Data by County
- The function will receive a state and return only the data pertaining to the state's counties

The functions will be called in **app.py** and the data will be sent to frontend via **render_template** and **Jinja**.

Breakdown of Tasks

A. **Yaru Luo** (PM)
- Oversees & plans incremental project development milestones
- Hosts github repo
- Helps with minor frontend/backend development tasks
- Updates design doc, maintains devlog
- Instructions page

B. **Peihua Huang**
- Clean up and format data into easily parse-able form, data transfer via Jinja
- Population by county in a horizontal bar chart
  - Facilitate transition in display view
- Ethnicity by state in a radially-stacked bar chart *(reach product)*

C. **Jackie Lin**
- Set up flask app routes and the frontend framework (with styling and JS)
- Population by state in a bubble chart
- Gender ratio by state in a double bar chart *(reach product)*

D. **Emily Zhang**
- Median income by county in a vertical bar chart
  - Facilitate transition in display view
- Citizenship percentage per state in a pie chart

Core Components

A. **Population by State**
- Will display the population of each state in the United States via a bubble chart or a choropleth map *(reach product)*
- User clicks on individual state to facilitate transition to specific population data for each state

B. **Ethnicity by State** *(reach product)*
- Will display the ethnicity percentage breakdowns in every state via a radial stacked bar chart

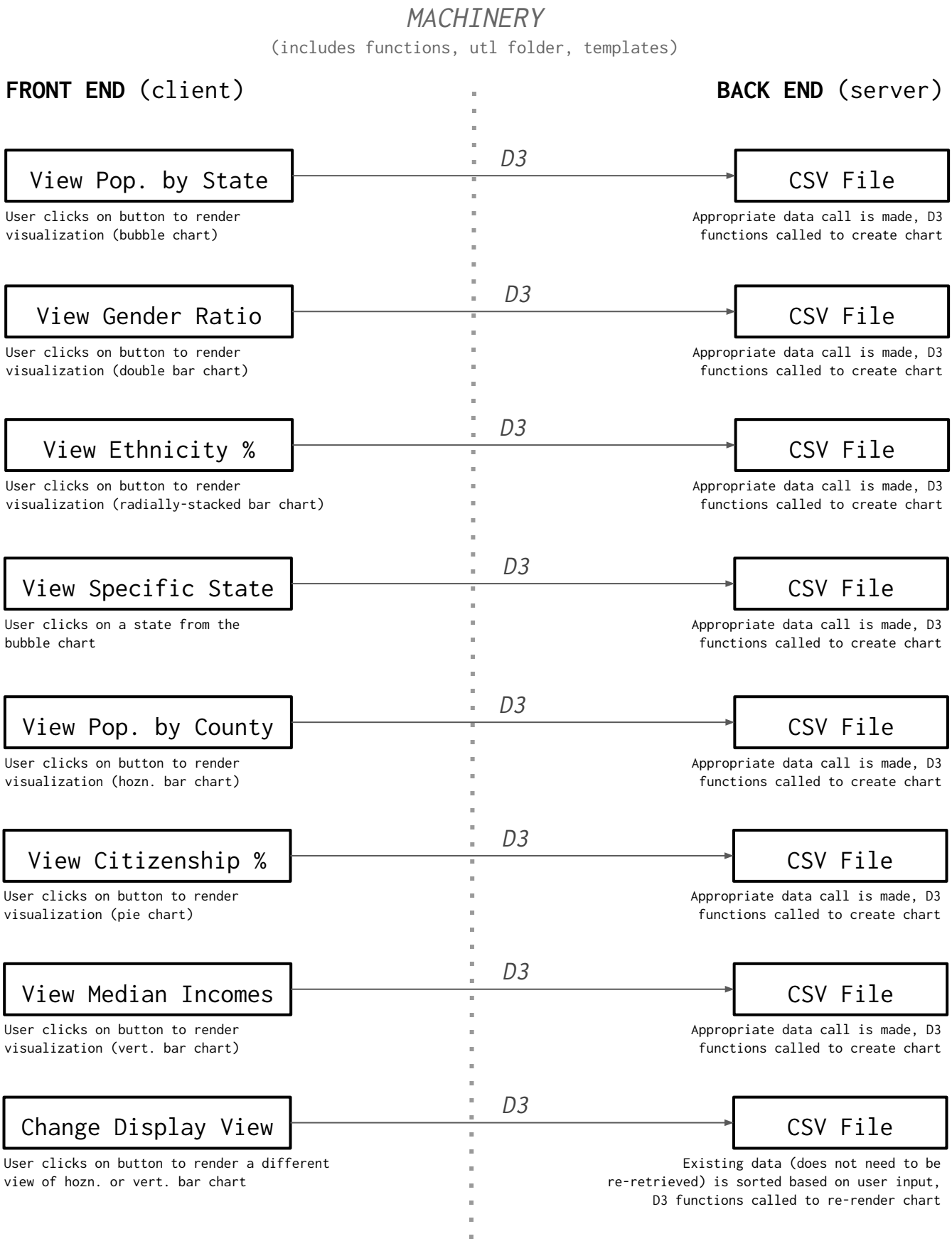
C. **Gender Ratio by State** *(reach product)*
- Will display the gender percentage breakdowns in every state via a double bar chart

D. **Citizenship Percentage per State**
- Will display the ratio of citizens to total population for each state via a pie chart

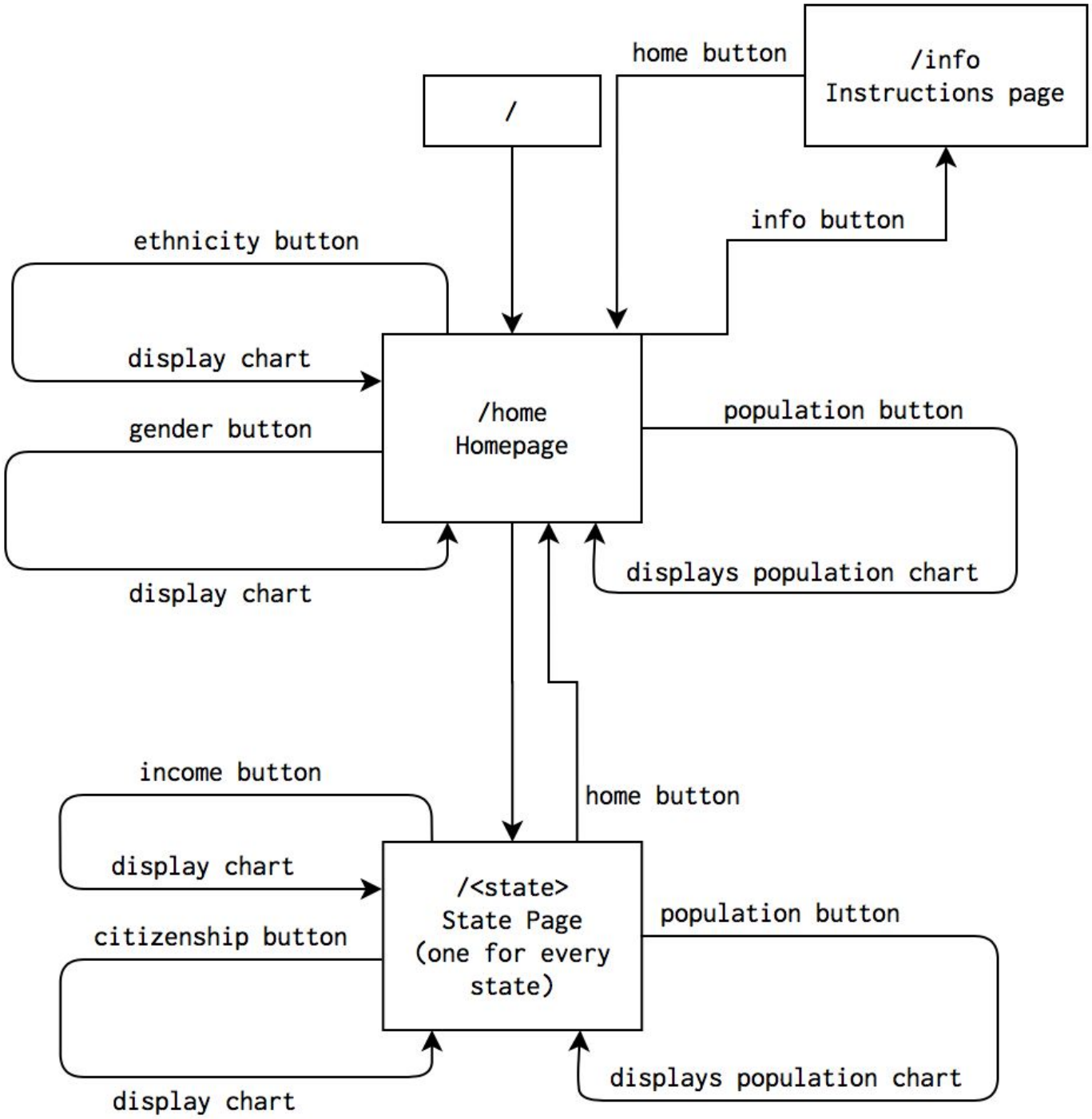
E. **Population by County**
- Will display the population of each county in a horizontal bar chart
- Input form to allow user to change viewing settings of bar chart (sort by ascending, descending, or alphabetical order) *(reach product)*

F. **Median Income by County**
- Will display the median income of each county in a vertical bar chart
- Input form to allow user to change viewing settings of bar chart (sort by ascending, descending, or alphabetical order) *(reach product)*

Component Map



Site Map


/
home button
/info
Instructions page
info button
ethnicity button
display chart
/home
Homepage
gender button
population button
display chart
displays population chart
income button
home button
display chart
/<state>
State Page
(one for every
state)
population button
citizenship button
display chart
displays population chart

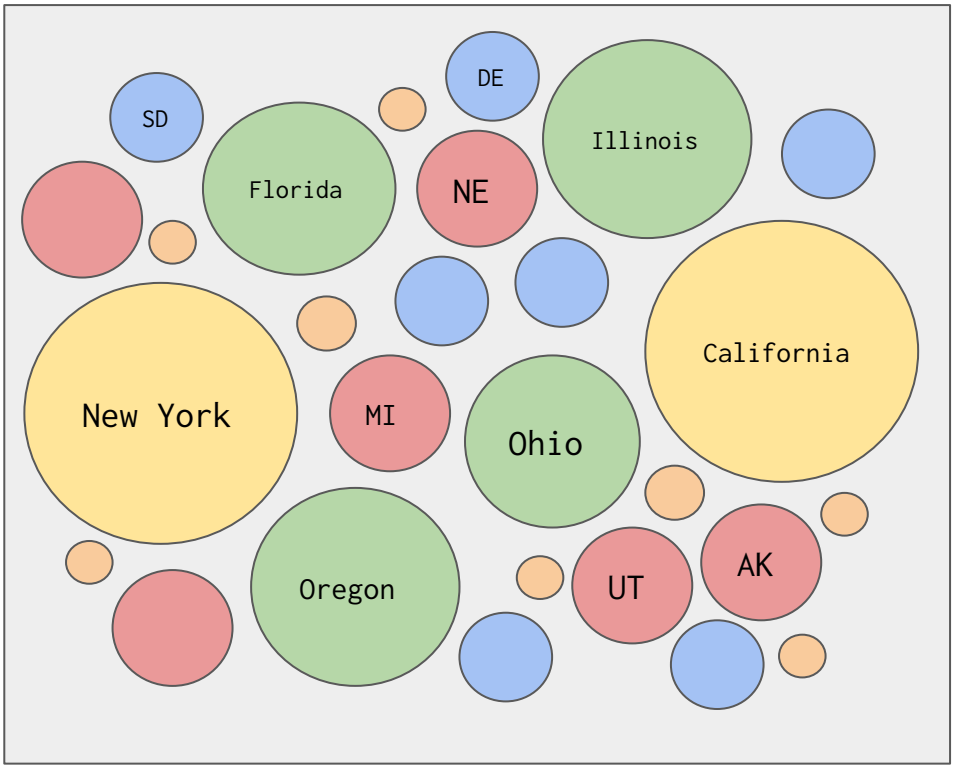
United States

View Instructions

Population

Gender

Ethnicity

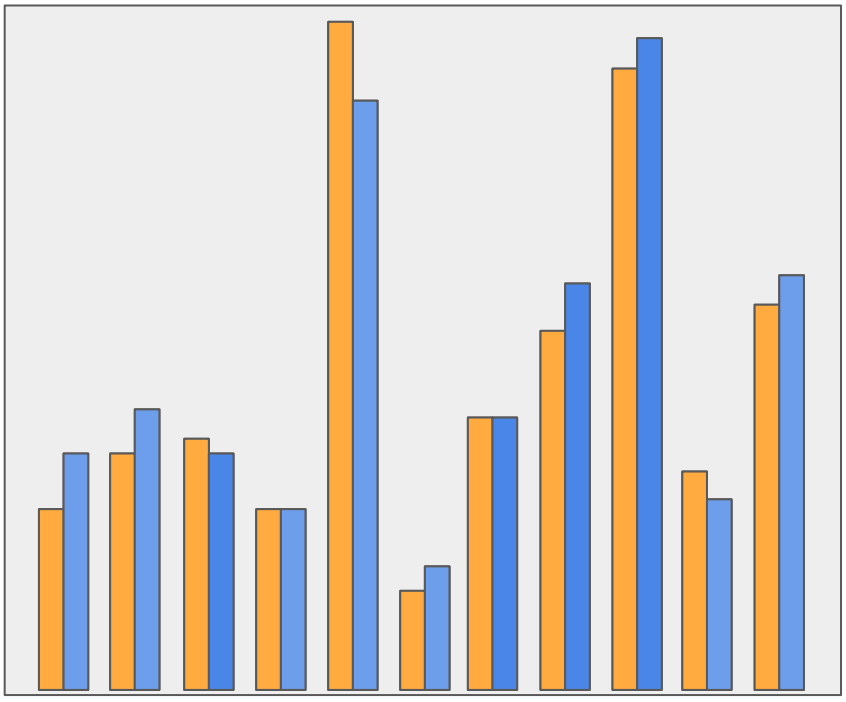


California

Population

Income

Citizenship



Display Options