

Team Bubble Trouble

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Bubble Trouble: Overview

Bubble Trouble examines the intersection of American demography and political ideology. Specifically, the application surfaces those counties that fall within a user-selected demographic dissimilarity range, sorted by descending ideological difference compared to the user's initial county of interest. Ideology is expressed on a simple axis: county level voter split between the Democratic and Republican candidates from the 2016 presidential election. Demographics are drawn from American Community Survey and Census data. When selecting the demographic fields of interest, the user defines an acceptable dissimilarity threshold for comparison. The application will query the database according to this +/- range and return all counties whose selected population characteristics are within that range from the original county of interest. A map is supplied for users to explore county level voting behaviors across the United States to spur potential queries and comparisons between them.

Structural Overview

Bubble Trouble is built as a Django web app. The highest level is proj-bubble-trouble, the directory containing our general information and project check-in files.

Bubbletrouble is the top-level Django application directory. This level contains the files necessary for operating our python, SQL, and GIS components in the environment. It also holds our major runtime python files and database: **access_db.py** (query and return from DB) **bubble_tables.db** (SQLite3 database), **manage.py** (Django admin file). Finally, it holds data collection and prep documents **demographics.py** and **elections.py** (collect and clean demographic and election data respectively).

There are four subfolders within bubbletrouble.

- **Data** contains the three .csv files from which the SQL tables are constructed.
- **Res** contains the three .csv files from which the UI lists are constructed, as well as the .py file that manages these three lists.
- **Search** is the Django app folder, containing the files needed to format and output the Django web application. `urls.py` connects the URL to the underlying application through `views.py`. `Views.py` collates the map, templating, and data querying into a single access point for the online application. The templates subfolder holds `index.html`, a templating file for the homepage UI.
- **UI** contains the Django settings URL pattern routing files that backup the Django web application.

Responsibility Breakdown

Evelyn Siu – Evelyn was primarily responsible for the visual and UX elements of the application. She built the map with the Bokeh package and user interface through Django, as well as interlacing the underlying Django application. She is the lead author of views.py and index.html.

Carolyn Vilter – Carolyn was primarily responsible for the collection, cleaning, and organization of the underlying data. She pulled data from the census using their API. She collected and cleaned the elections data provided to us by a Harris professor. She also supplied the shapefiles for the map. She is the lead author of README.md, shapefiles.py, demographics.py, elections.py, ui_lists.py and their resulting data files.

Cole von Glahn – Cole was primarily responsible for the construction of and interaction with the SQL database and the initial structure of the Django web app. He built and managed bubble_tables.db and its underlying tables. He was the primary author of access_db.py, and this report.

Usage Description

The user supplies a state, county, dissimilarity threshold, and demographics of interest. The resulting dictionary passes through query construction and returns a list of matched counties. These are counties for which the requested demographics all fall within the (inclusive) +/- range of the supplied dissimilarity threshold. They are sorted by descending ideological dissimilarity, defined as the difference in vote split from the original county. The original county is displayed first, followed by its most ideologically opposed among the matched counties, on down to the most ideologically similar of the matched counties

From Conceit to Conclusion

We set out to create an exploratory data tool. Our initial goal for the tool was to provide users with an opportunity to grasp the political bubble of their area and compare it to the bubbles that exist in demographically similar areas. We have succeeded in creating such a tool. Bubble Trouble helps users understand the relationship between American demography, geography, and political ideology. A user can gain insights into how those first two determinant axes (demography/geography) relate to political ideology. Further, they can use Bubble Trouble to spark further investigation into why places and people think and act the ways they do. There are certain features of the tool that could be further expanded and tailored towards its mission, but the initial goals of the project were met in our final product.