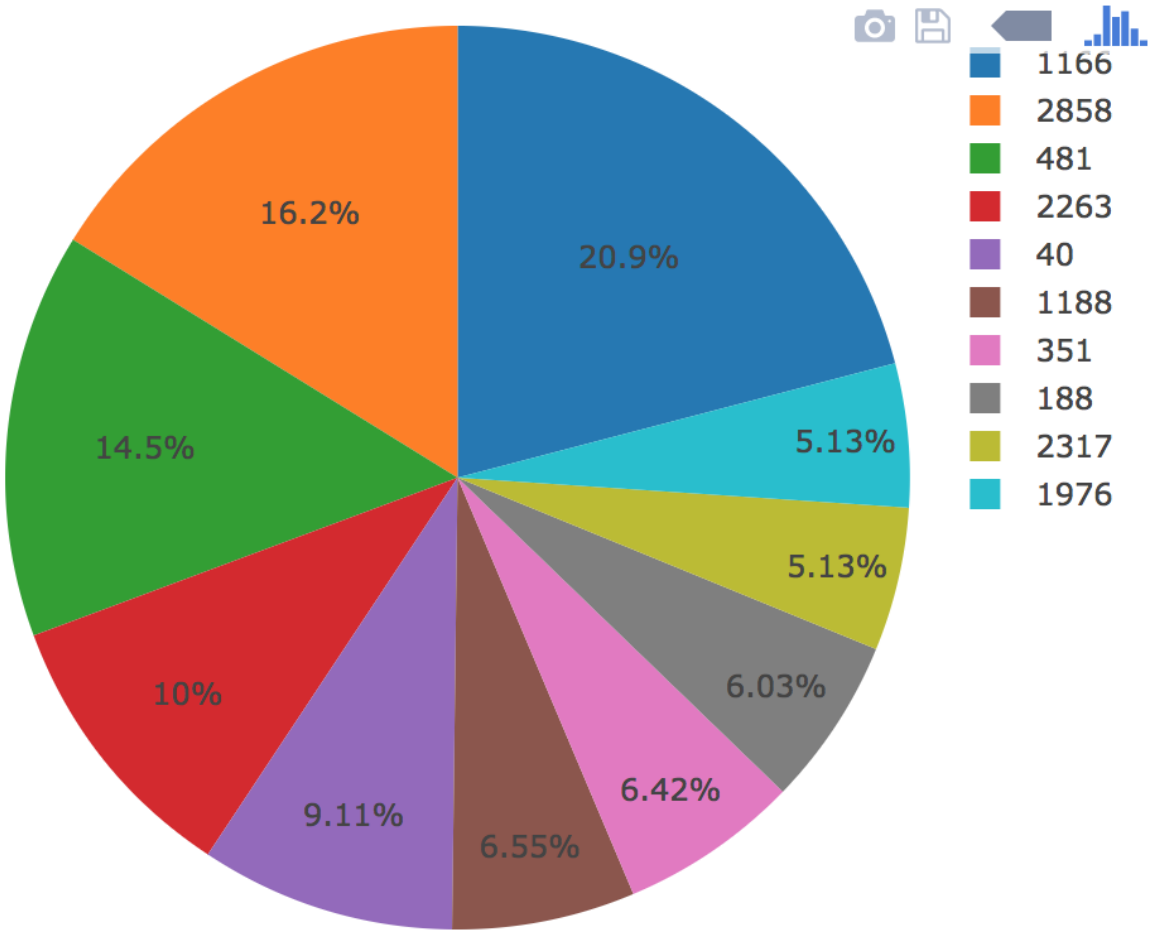
Belly Button Biodiversity

In this assignment, you will build an interactive dashboard to explore the Belly Button Biodiversity DataSet.

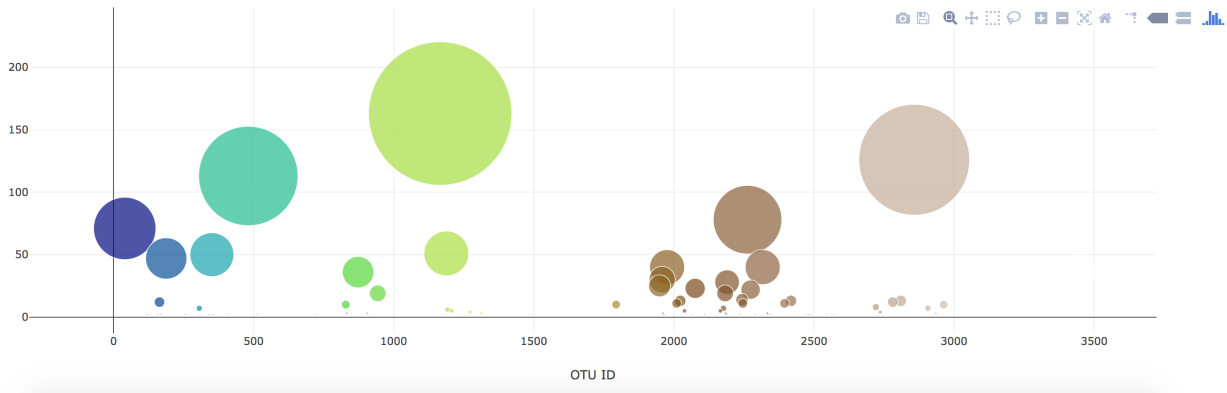
Step 1 - Plotly.js

Use Plotly.js to build interactive charts for your dashboard.

- Create a PIE chart that uses data from your samples route (`/samples/<sample>`) to display the top 10 samples.
    - Use `sample_values` as the values for the PIE chart
    - Use `otu_ids` as the labels for the pie chart
    - Use `otu_labels` as the hovertext for the chart

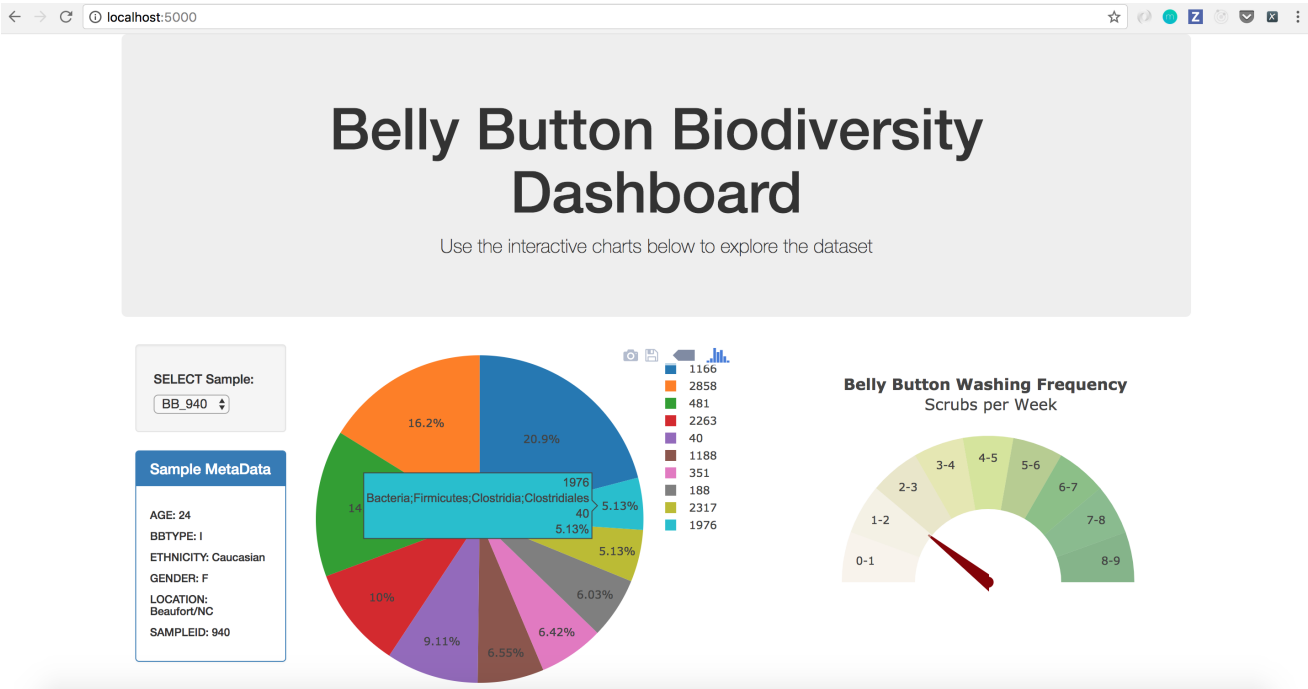


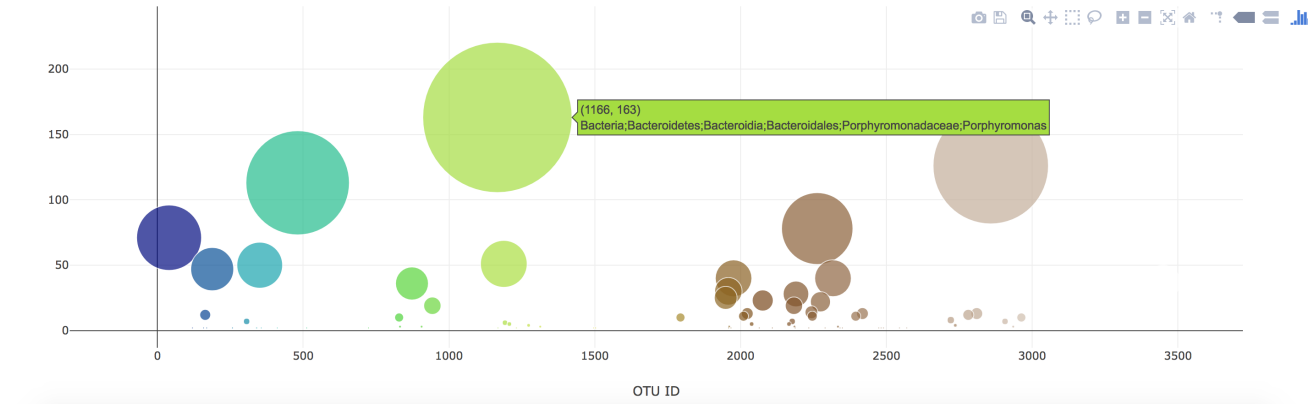
- Create a Bubble Chart that uses data from your samples route (`/samples/<sample>`) to display each sample.
  - Use `otu_ids` for the x values
  - Use `sample_values` for the y values
  - Use `sample_values` for the marker size
  - Use `otu_ids` for the marker colors
  - Use `otu_labels` for the text values



- Display the sample metadata from the route `/metadata/<sample>`
  - Display each key/value pair from the metadata JSON object somewhere on the page
- Update all of the plots any time that a new sample is selected.

- You are welcome to create any layout that you would like for your dashboard. An example dashboard page might look something like the following.





Step 2 - Heroku

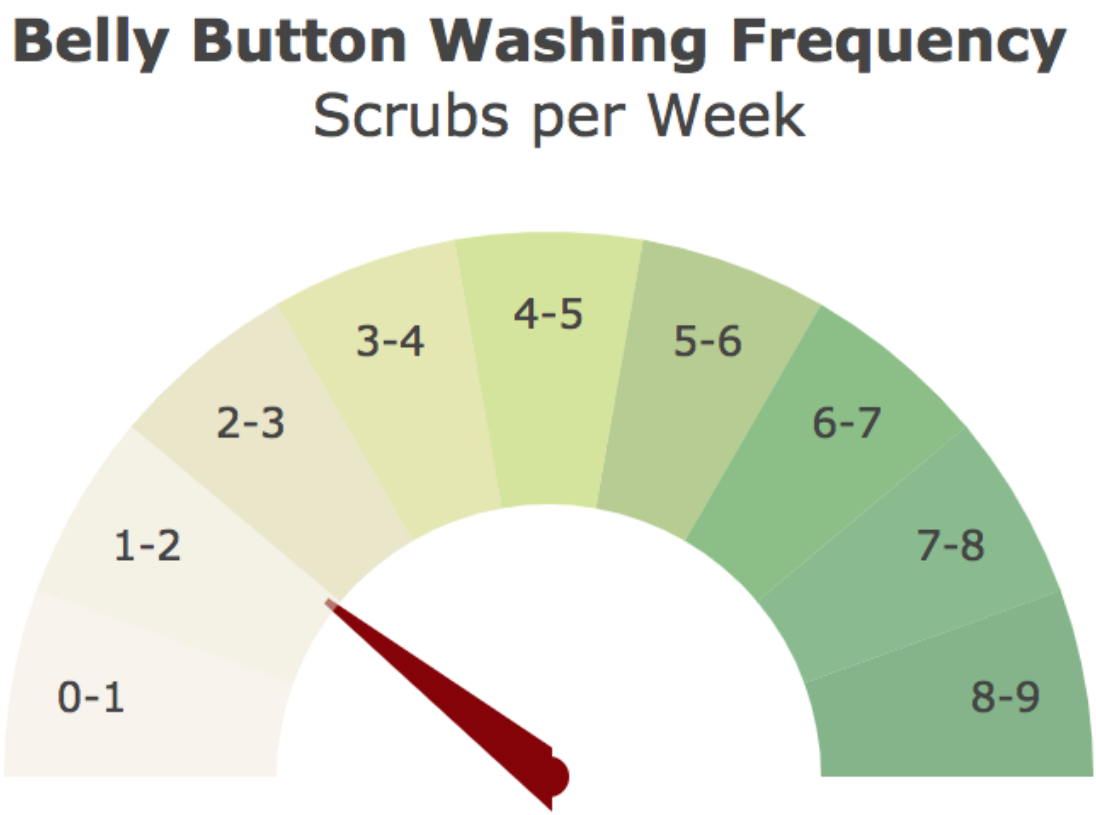
Deploy your Flask app to Heroku.

- You can use the provided sqlite file for the database.
- Ask your Instructor and TAs for help!

Advanced Challenge Assignment (Optional)

The following task is completely optional and is very advanced.

- Adapt the Gauge Chart from https://plot.ly/javascript/gauge-charts/ to plot the Weekly Washing Frequency obtained from the route `/wfreq/<sample>`
- You will need to modify the example gauge code to account for values ranging from 0 - 9.
- Update the chart whenever a new sample is selected



Flask API

Use Flask API starter code to serve the data needed for your plots.

- Test your routes by visiting each one in the browser.

Hints

- Don't forget to `pip install -r requirements.txt` before you start your server.
- Use `console.log` inside of your JavaScript code to see what your data looks like at each step.
- Refer to the Plotly.js Documentation when building the plots.

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