CS 448B: Interactive Visualization Software

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Process

We started by importing the starter code and creating the initial restaurant data points as shown in class. We then implemented the ability to add circles onto the screen, and made it possible to move and resize the circles using sliders and clicks. We thought that having the circles be draggable was an intuitive way to move the circle centers, and thus enabled us to abstract away any mention of latitude and longitude, which is not a human-readable measure.

Rerendering the circles and restaurant data points was easily the longest part of the assignment, as this involved the deepest understanding of D3 and how the life cycle of the program is executed. Both of us had experience in web programming, so creating callbacks and adding elements to the DOM was less difficult than the D3-heavy parts. The biggest breakthrough was using D3's join() method to handle the enter, update, and exit for all visual elements.

We also decided to add some additional functionality to filter the data, such as the ability to search for any restaurant by looking up keywords in the address or the restaurant name. Additionally, moving the slider for health inspection scores filters the data points accordingly. We greyed out any data points not included in the circles, and removed any data points that did not fit the filter criteria. The default filter settings include all available points.

Finally, we added finishing touches to the presentation by adjusting the colors and spacing for all elements and labeling each circle with "A" or "B" and labeling restaurants when they are hovered over. We also calculated the relative distances of our map and gave the radius of the circle an accurate label in miles (roughly a 50:1 pixel to mile ratio).

Contributions

Both team members contributed equally.

Tyler Yep

- Adapted starter code.
- Added resizing slider bars.
- Fixed movable circles and issues related to enter/exit.
- Implemented search bar and checkboxes.

Joy Yuzuriha

- Added clickable two circles.
- Colored points according to their distance from the center of circles.
- Added restaurant info box.
- Styled and colored visual elements.

References

- We used w3 tutorials to style the checkboxes, sliders, searchbars, and buttons.
- We researched tutorials on how to use join() in d3.
- Reused all of the class-provided code.

https://www.tyleryep.com/stanford-cs448b/proj3/