Design Drift

The team must provide a document that is an update of the former, documenting what was done to implement the client-side of the application. What functionalities were implemented? What were added that were not planned? What functionalities were removed? Such information should be provided in this document.

Our functionalities have always been for the express purpose of providing useful data visualization. As we integrated geoJSON for displaying our visualizations by location, we realized that, while not infeasible for our codebase, properly displaying both by location and allowing the visualization of multiple different custom searches would require significant unplanned functionality beyond the scope of our project.

We have thus decided to significantly limit the breadth of possible searches so as to preserve the core function of comparing data province-by-province. Additionally, for time, we implemented a simple coloration of the map rather than charts located on it. We feel the charts had minimal impact on proving our ability to code what was learned in this class, while implementing them would've taken considerable development time.

In the process of implementing client-side functionality to create a custom visualization(aka, a "search", or graphing), we discovered that additional work was required to properly handle ages, as we want the user to experience parity between the datasets we're displaying together. With this work done, we changed our solution for multiple locations to match, which simplified our code.

We also took on board feedback from the previous iteration, which noted large inefficiencies in our code related to checking query strings. With the above change in how we handled multiple values and having learned client-side code in class, tight control on the client-side of possible inputs has rendered our previously existing validation functions completely unnecessary, and it has been removed. We note that our dataset is only a few thousand entries, and so outside of this, no special effort was paid to discover other efficiency opportunities.

There were no other unexpected changes.

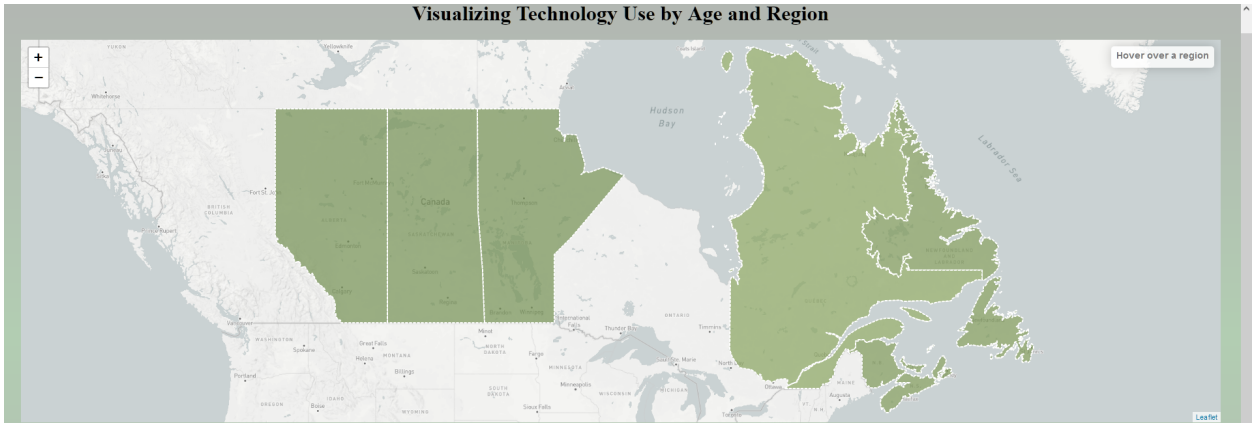
While implementing the leaflet.js map we discovered it has support for geoJSON files. These files contain polygons meant to encode geographical locations. We found some Canadian geoJSON files at https://github.com/johan/world.geo.json/pull/29
With the combination files created for Atlantic region and Prairie provinces, the geoJSON files totaled over 2MB. https://www.npmjs.com/package/mapshaper was used to compress the geoJSON to 200 KB without loss of fidelity.

Views

The document must have a section named Views where you document your views and what you can do with them (methods). Why are they necessary for your application?

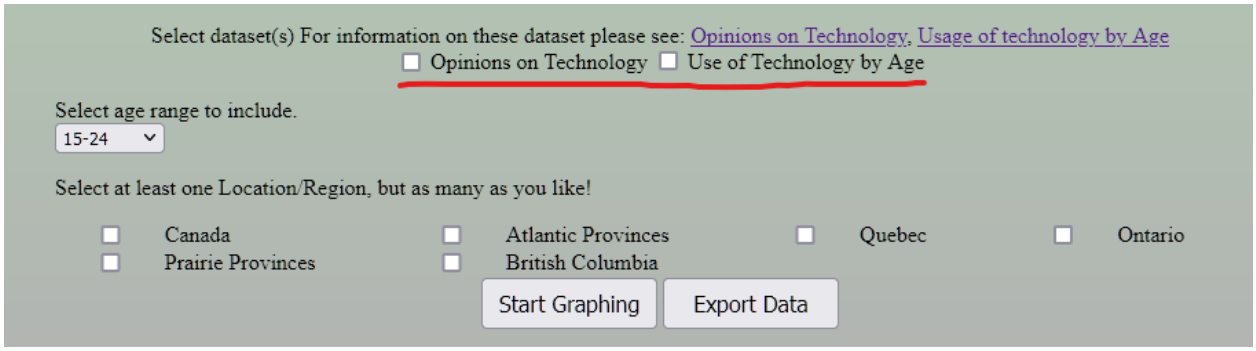
We have two views. We have our leaflet map, which serves as a display for the particular data requested by the user and breaks up that data by location. Without this view, we would not be providing the user with any ability to explore the data and tease out the differences that are quite difficult to see from the .csv's provided by the Government of Canada.

Here's a picture of the view.



Our second view is the data selection, where the user configures the parameters of their search to the server for display on the previously mentioned map.

Here's the picture of that (note that, with both datasets are deselected, none of our dataset-specific options are visible which makes this take up less space in our report):



Elements and Animations

The document should list and explain the elements used in assembling the client-side. Describing the animation effects used is also important in this part of the report.

In terms of elements, we require significant amounts of user input, and so the majority of our elements are input elements.

Outside of the leaflet map, all elements are in fact some type of input or selection, which we use to build a custom object (essentially a dictionary) that is passed to our backend, further modified, and sent on to MongoDB as a search.

We have dropdown selections for age, which is a shared value in both datasets, and for sex, question, and answer, which belongs to and is handled by Responses(The Opinions on the use of technology dataset), as well as a dropdown selection for each possible statistic in the Usages (Usage of technology) dataset. If a dataset is not selected, all of their related options fade out, and become visible again if the dataset is later selected.

We have two collections of checkboxes, one for selecting what dataset(s) you would like to visualize, and one for selecting which location(s) you would like included. Due to the limitations of the Usage of technology dataset, we limit the locations displayed when it is selected, and their disappearance is a fade-out like for our dropdowns. Only locations exclusive to its sister dataset fade out, and each is thus coded individually.