Michael Lee (mlee435)

Da-In Ryoo (dryoo6)

CS 4460

P5 Report

Dataset Used: candy.csv

Supported Analytic Tasks:

- Retrieve Value: the user is able to view what percentage of respondents react with joy, despair, or indifference to each type of Halloween treat.
- Filter: the user is able to filter out responses based on several criteria, such as gender, country, and age, making it possible to better understand trends among certain groups of respondents.
- Compute Derived Value: the user is able to aggregate the Halloween candies by type (chocolate, candy, or other), making it possible to see how respondents felt about all the treats in these groups on average.
- Sort: the user is able to sort the dataset by several criteria, including alphabetically by candy name, percentage that responded to the candy with joy, and percentage that responded with despair.
- Find Extremum/Anomalies: after sorting by percentage, the user is able to identify if there are any Halloween treats that respondents reacted to much more differently than others.
- Characterize Distribution: the user is able to determine the distribution of opinions towards each individual Halloween treat, as well as their larger groups.
- Correlate: using a combination of filters, sorts, and groupings, the user may be able to find correlations between attitudes towards certain types of candies and respondent groups.

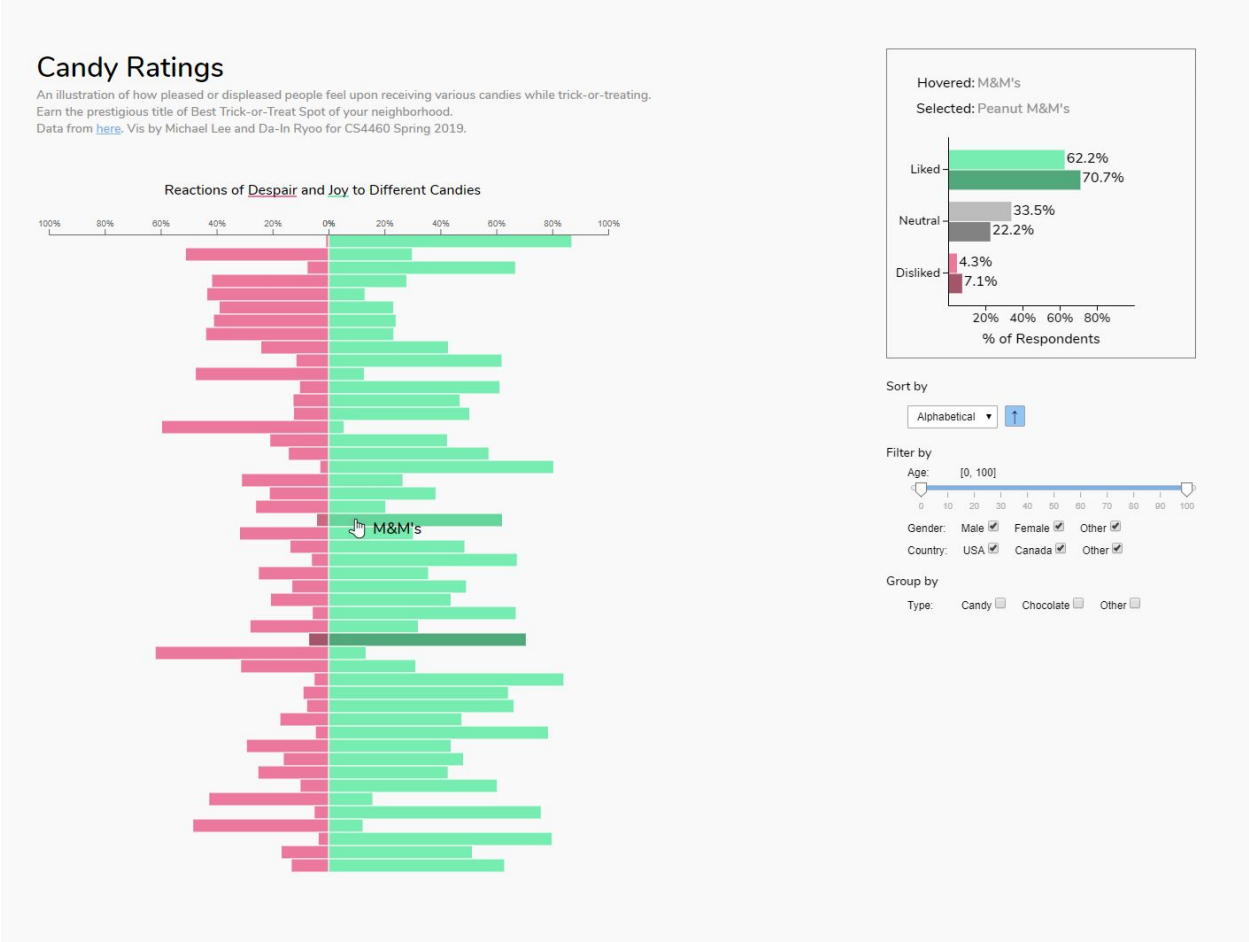
Design:

Visualization at startup

When first deciding how to visualize the dataset we had selected, we considered what kinds of insights the user might want to derive about our data through our visualization. Given that our dataset involves how people respond to receiving various types of treats on Halloween, we felt that the main question users would have is "What kinds of treats should I give or avoid giving for Halloween?" With this question as the main driving force behind our visualization's design, we settled on a double-sided bar chart as the focus of our project.

In this bar chart, users are able to directly compare the percentage of respondents that felt either joy or despair to each type of Halloween treat, making it much simpler to determine which treats are most enjoyed or despised. The percentage that responded with indifference was not depicted on this graph, as it would make it more difficult to compare the two main responses (joy and despair), and indifference would not factor as much into what treats should be given as the other two responses. Furthermore, the candy names and exact percentages were not depicted on

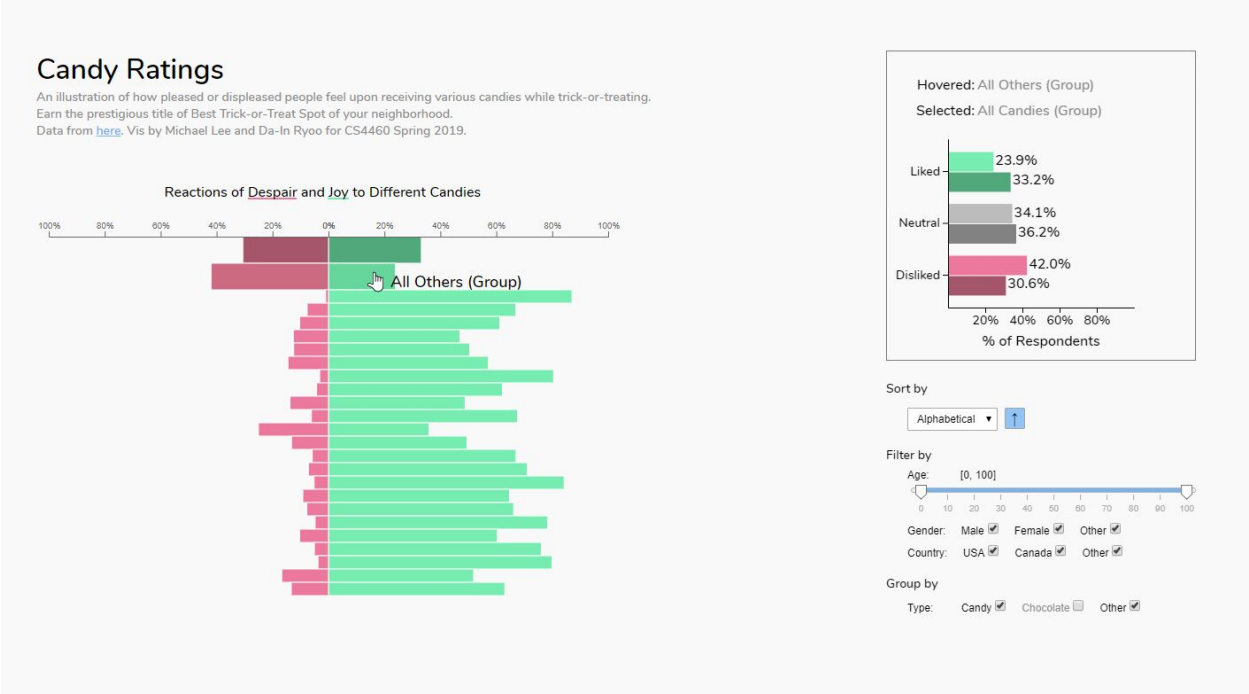
this graph either, as there are many bars that are relatively small in size, resulting in a very cluttered view if this information were to be included. However, both of these can be found through alternative methods.



Hovering and Selecting

More detailed information about each type of treat can be found through hovering or selecting the item. When hovering over a bar on the graph, the name of the corresponding treat will appear next to the user's mouse, allowing them to quickly determine which treat the bar represents. Furthermore, an exact breakdown of that treat's data will be depicted on a separate bar chart on the right side, including the neutral responses as well as the exact percentages for each type of response. This information can also be directly compared with another bar by clicking on the bar to keep its information displayed, then hovering over a different bar to have both breakdowns be shown side-by-side. Through this functionality, users are able to perform a more in-depth analysis on the feelings towards receiving each candy, and then compare directly

between different types to make a more informed decision on which candy to give out during Halloween.



Grouping and Filtering

Several other options are provided to the user to give them further insight into reactions from more specific groups of people or more general groups of treats. For instance, the users can group treats together by their types (candy, chocolate, or other) to see the average response to each category, giving a more general overview rather than looking at each individual treat case-by-case. Various filters and sorting options can be applied as well to see how specific respondents (by age, gender, country) reacted to each treat, making it possible to best tailor the treats given by who they're being given to.