A2 Write Up

The dataset that we chose to work with was the Chicago crime dataset from the assignment description for the 2024 crimes. Specifically, we used the data that focus on the type of crime(theft, battery) and the date of the given crime. Those were the variables that we used in both our visualizations.

We believed that using this subset of the Chicago crime dataset is best portrayed by a bar graph and a pie chart. For the bar graph, there are two components to it. The initial bar graph has the month as the x axis(ordinal) and the number of crimes as the y axis(ratio). For the color, we chose to use red as we believed that was the color that best represented violence. For each individual month on the bar graph, the bars are made clickable. Upon click, the individual number of crimes for each day in that month are shown. We chose orange to represent the daily bars. This color switch makes it evident to the user that the visual switched from months to days. By clicking anywhere on the bar graph, the visualization returns back to the month form. For the pie chart, we used a categorical color scheme because the crime type is nominal and we don't want to imply any order. We added tooltips for the pie chart so users can see more information about each slice. Each slice shows the percentage and the total number of that crime committed. Both the bars and pie slices are animated to make the visual more engaging, entertaining and interactive. The pie chart is also connected to the bar graph. Initially, the pie chart shows the ratios for the entire year. However, if a specific month is clicked on the bar graph, the pie chart reflects the ratios for that month. Both the bar graph and pie chart are linked together. Whatever month the bar graph is showing, the pie chart reflects that same month.

We also considered a scatterplot where each dot represents a specific date and the amount of crimes committed on that day. However, after talking about it and planning it, we deemed that

this would not be as useful of a visual as the bar graph. The bar graph would make it much easier to see the crime rates per month and also easier to interact with. Having 365 different dots would make it very difficult for users to interact with the visual, despite having tooltips to give exact numbers.

The work was split amongst the both of us, with Calvin mainly focusing on the coding portion, and Adarsa mainly focusing on the writeup and demo. Both team members contributed to all aspects of the project. Planning took about 2.5 hours. During this phase we discussed what we wanted to include in the project. The coding portion took around 8 hours, which was the longest. Tweaking the code and completing the write up and demo took about another 2 hours. There were specific portions that took longer than others. Organizing the data and figuring out how to aggregate it took some time. Parsing the data was also very tedious. We also grouped the less common crime types into "other offenses." Doing this and trying to figure out the best methods also was time consuming. Formatting the pie chart also took some time as we had to find the best sizes and positioning. Overall, we went through the entire process of planning, coding, editing and publishing the final product to ensure the best quality of visualizations.

Resources: https://data.cityofchicago.org/stories/s/Crimes-2001-to-present-Dashboard/5cd6-ry5g