

Module 5: Group Project — RShiny Dashboards

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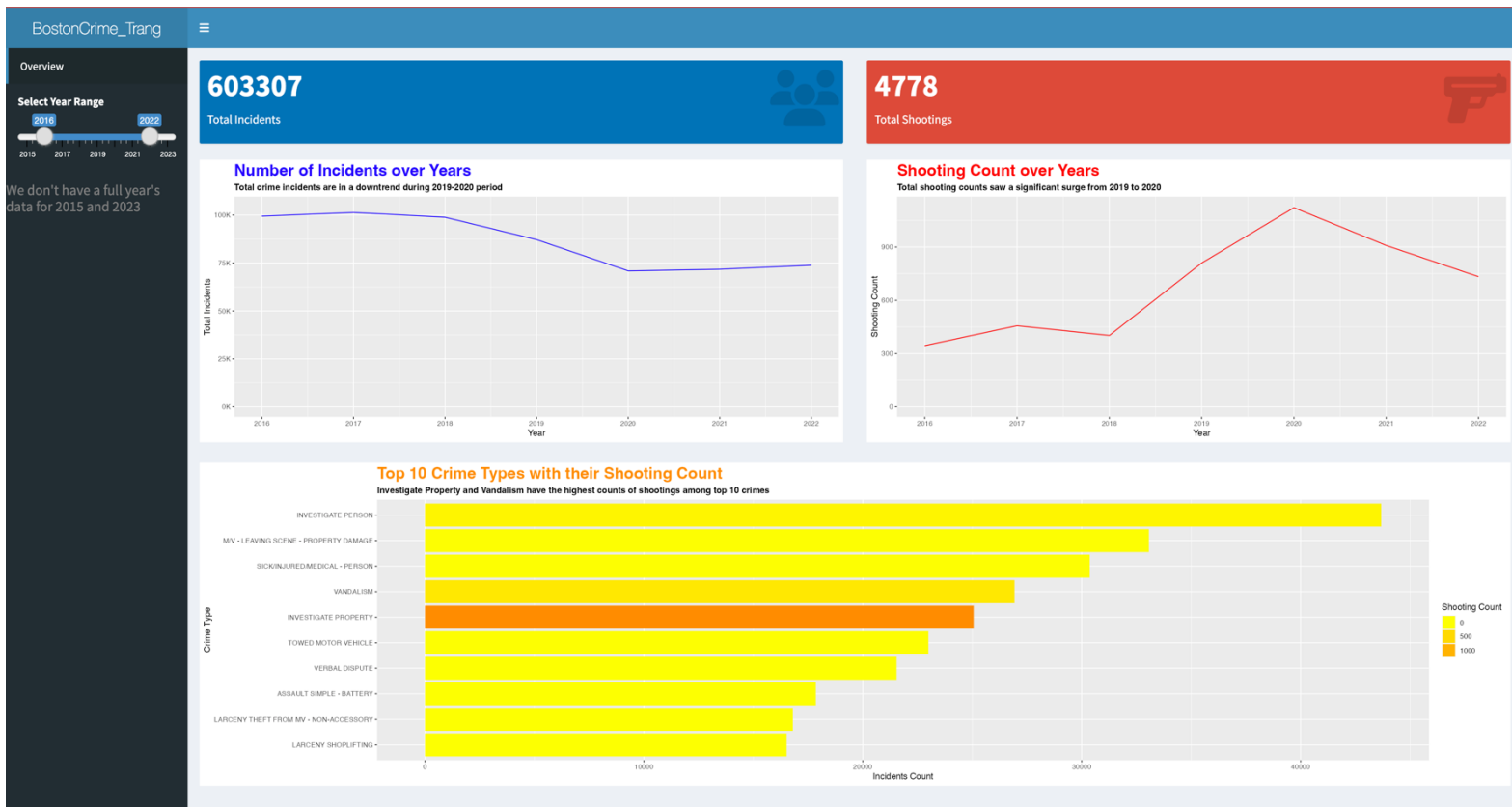
ALY6070 | Communication and Visualization for Data Analytics

Professor Allison Maurer

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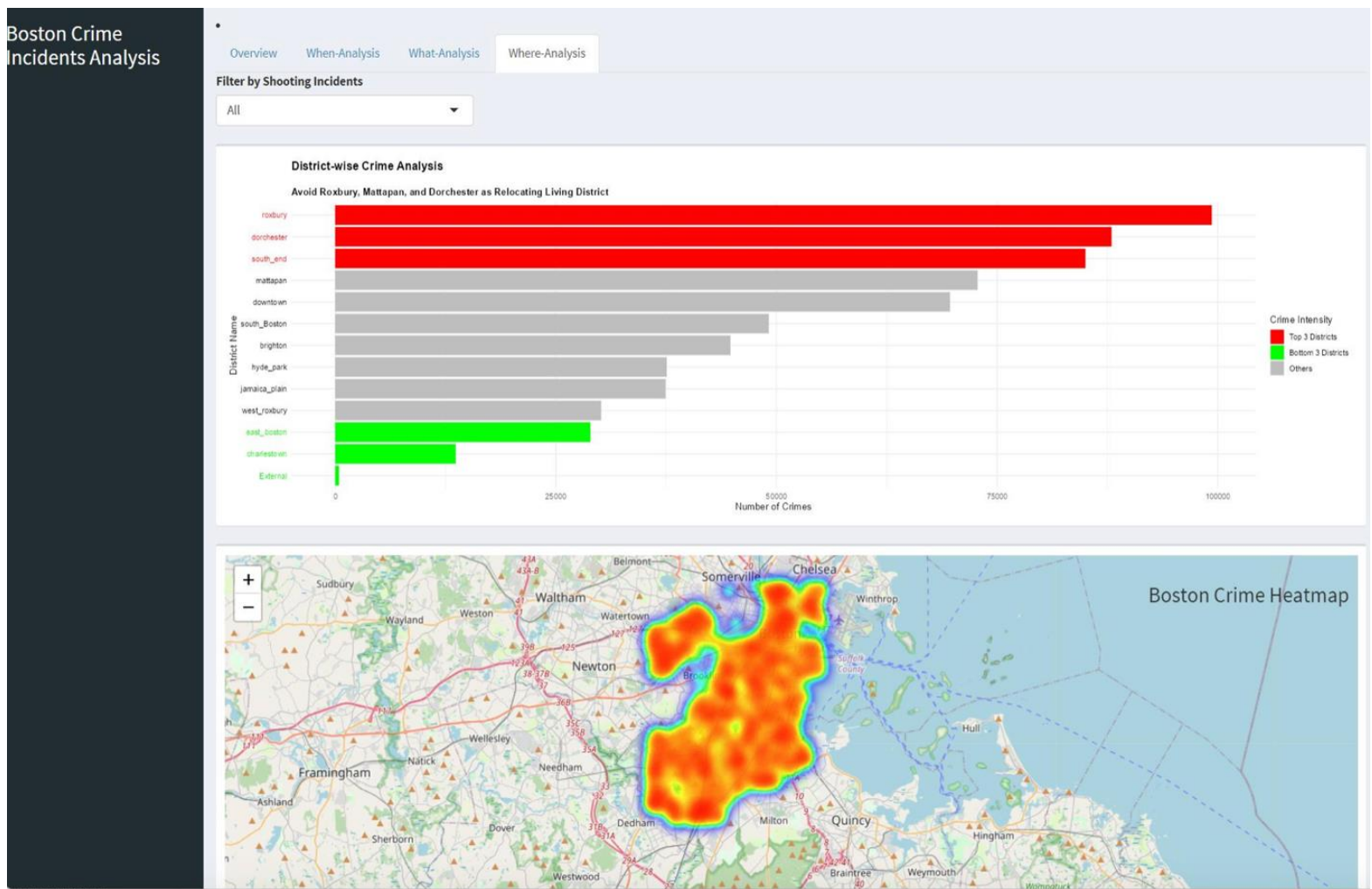
Overview Dashboard (Trang)

We present an interactive Overview Dashboard for insights into Boston crime data trends. Users can select a year range using the sliderInput, explore ValueBoxes for key statistics, and analyze plots depicting incidents, shootings, and top crime types with shooting counts. The sidebar features a reactive sliderInput that filters data based on the chosen years. To prevent confusion, a text note "We don't have full year data for 2015 and 2023" is displayed. Two ValueBoxes, complemented by icons and colors, display "Total Incidents" and "Total Shootings" within the chosen years. Three plots unveil insights, such as a dip in incidents during 2019-2020, a surge in shootings in 2019-2020, and the prominence of Investigating Property and Vandalism in the top 10 crime types with the highest shooting counts. For the subsequent dashboards, we will be digging into the ‘What’, ‘Where’, and ‘When’ analyses.



Where Analysis (Kyla)

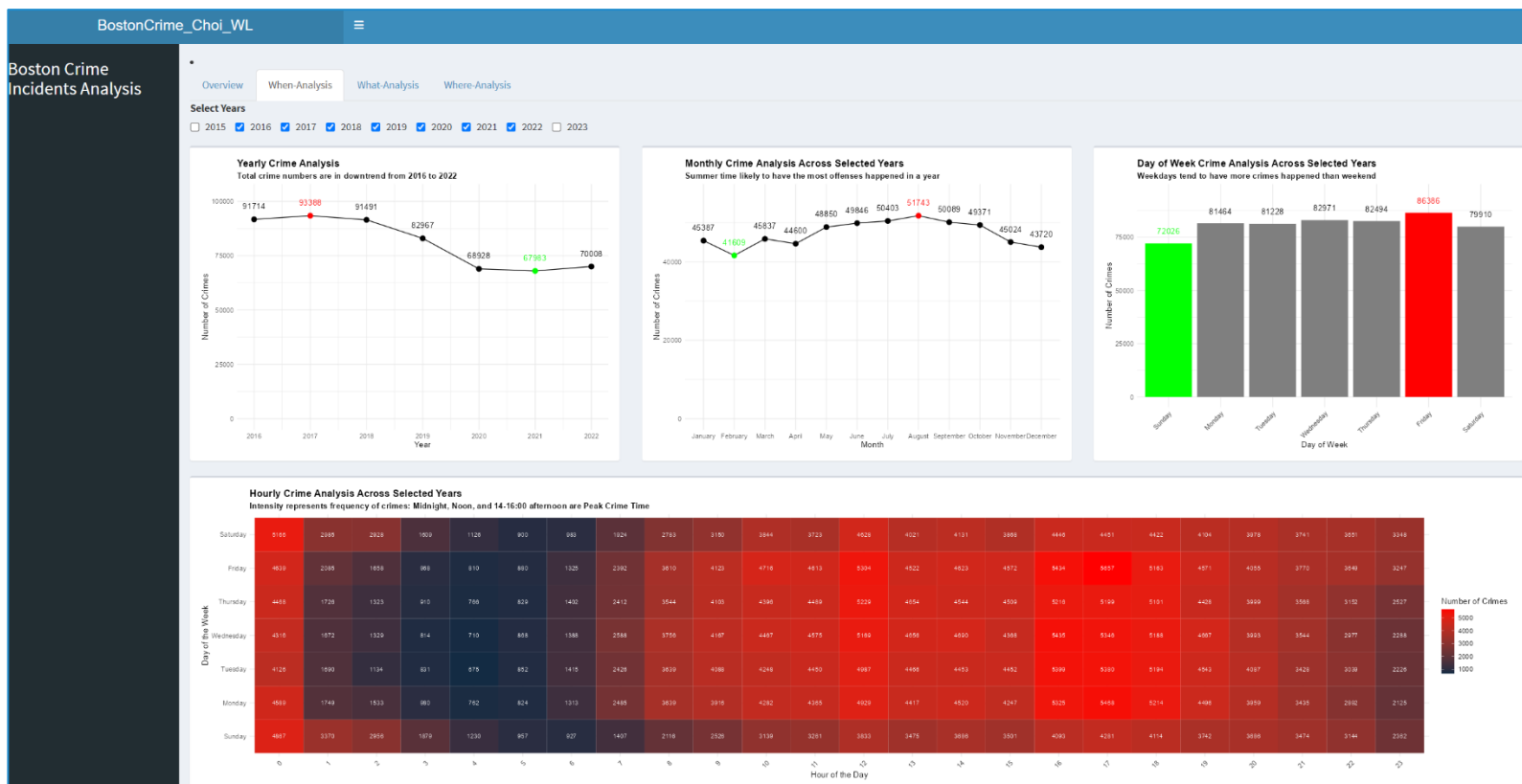
The underlying narrative within my code helps display the imperative for mayors and policy makers to meticulously examine the disparate policing approaches applied to Roxbury, Dorchester, and the South End, given their consistently elevated crime rates. Moreover, we should take into the account the scale and proportions of these areas. Equally important, is the various variables at play in East Boston and Charlestown, prompting the question of whether demographics hold significance. Notably, the contrasting presence of a predominantly older population in East Boston and Charlestown, which saw the lowest amount of crime as opposed to Roxbury and Dorchester, could be a contributing factor. In addition please note that the shooting filter button is a key element in the chart as when you filter to look at data with no shootings involved the top and bottom districts may change.



When Analysis (Wui)

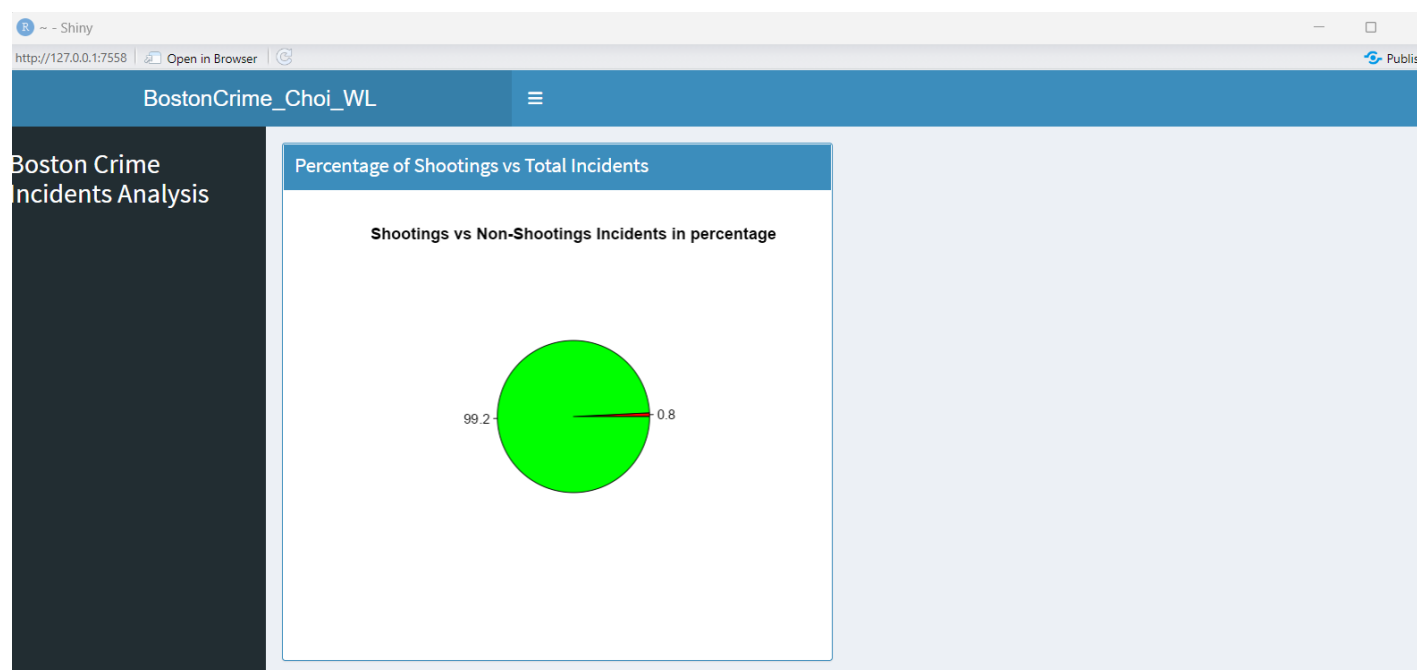
In our analysis of crime in Boston, we've uncovered several key patterns. Firstly, the yearly crime analysis reveals that the number of crime incidents has been on a decline from 2016 to 2022. The monthly breakdown shows that the summertime sees relatively more criminal activity compared to the rest of the year, with February emerging as the safest month historically. When breaking it down by days of the week, it's evident that weekdays, especially Fridays, tend to have more crimes than weekends. Moreover, the hourly crime heatmap indicates that midnight, noon, and the 14:00-16:00 period in the afternoon are when offenses peak on any given day.

Piecing this information together, we can advise families considering a move to Boston that the city is becoming safer, indicating effective governance. However, it's advisable to avoid relocating during the summer due to its higher crime rate. Additionally, for new families settling in the area, it would be prudent not to leave children unattended at school during the after-school hours (14:00-16:00) as this is a prime time for offenses.



What Analysis (Wui, Aderus)

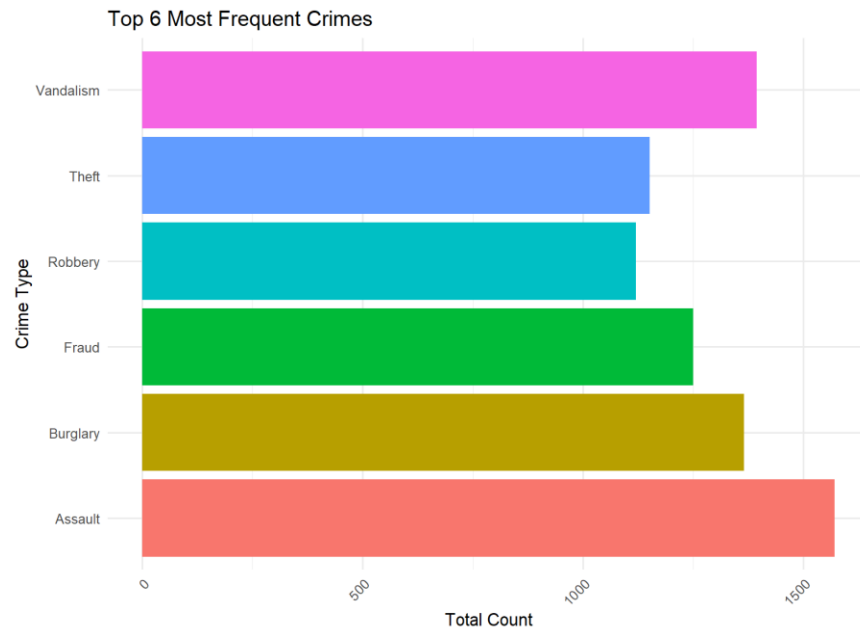
For the What Analysis, we have first checked in for the shooting percentages for all incidents happened in Boston. Turns out the rate of Boston crime that involved in shooting is just 0.8%. This is a good sign for new movers to Boston, showing although the crime numbers might be high, most of them are not armed with guns.



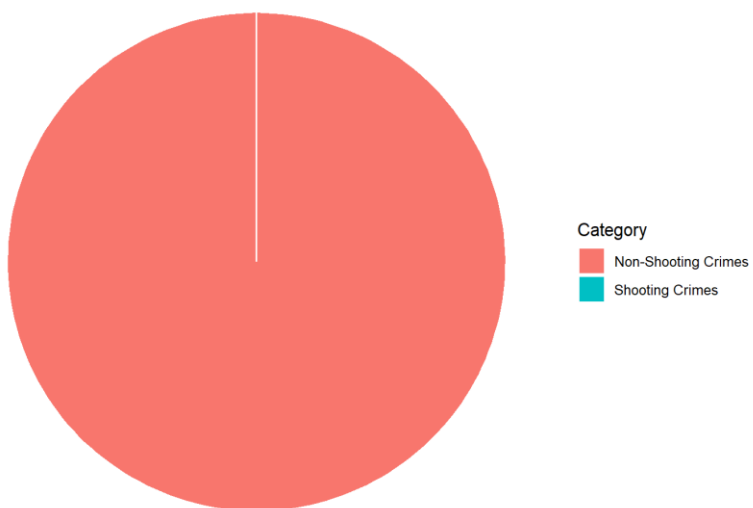
Aderus Workings:

R Codes, Downloaded from group chat sharing and submitted in Canvas Submission.

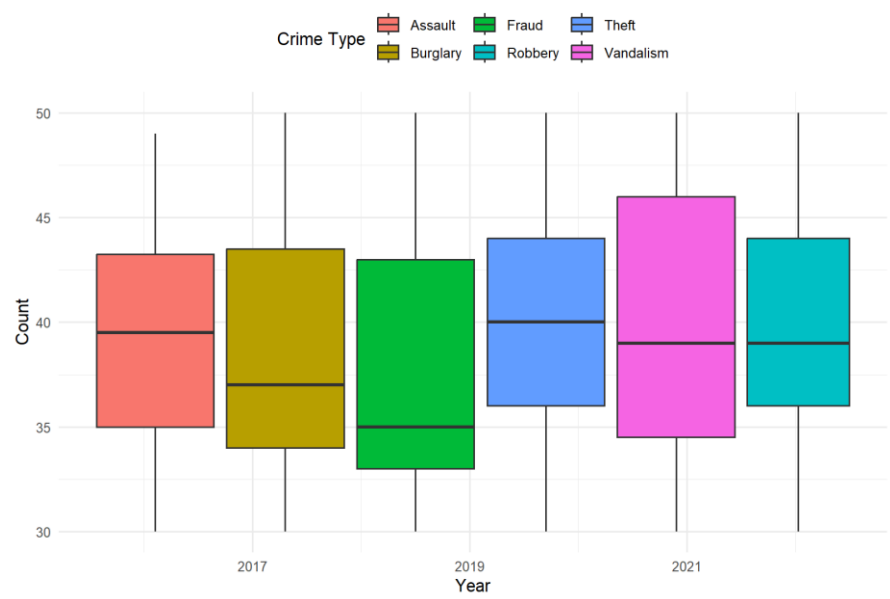
Visualizations posted in group:



Pie Chart for Crimes Involving Shooting



Box Plot of Crime Counts by Year (2015-2023)



Histogram of Crime Counts (2015-2023)

