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Description of the Topic

This project intends to design an **interactive dashboard using Quarto and R** to analyze crime data in Chicago, United States from January 1st, 2024 to December 31st, 2024. The dashboard will provide insight into crime trends, pattern and spatial distributions across different communities, counties and time frames, and will include interactivity such as filters for crime type, community, and year.

The dashboard includes features such as;

- ❖ Total crime occurrences.
- ❖ Monthly crime occurrence trends.
- ❖ Crime distribution by days of the week.
- ❖ Arrests made.
- ❖ Top five communities with the highest crime occurrences.
- ❖ Crime occurrences by day or night.
- ❖ Map of Chicago showing crime frequency in different areas.

The dashboard will help to answer questions about

i. Where crime occur in Chicago
ii. When (time) crime occur in Chicago
iii. Effectiveness of crime fighting in the city of Chicago.

Data Source

The data that will be used for this study is the Chicago city Crime data obtained from the City of Chicago public database here. The data will be filtered to contain only crime data for the last one year, i.e. January 1, 2024, to December 31st, 2024. The data has 21 columns (attributes).

The spatial (latitude, longitude, district, and community) and temporal (date) attributes will help us answer the question of where and when crimes are mostly committed in Chicago city. Also, the attributes such as arrest and district will help us understand how effective is the Chicago Police Department in combating crime and under whom watch is the most crime perpetuated respectively. We will use the data to explore and visualize when crime mostly occurs (days of the week, months and years); and where (hotspots (neighborhood) where crime occurs more often and which type of crime occurs mostly).

Programming Language

Quarto and R

Expected Output

i. Quarto dashboard code (.qmd)
ii. Processed and clean Chicago crime dataset (.csv)
iii. GitHub repository link