Live Safe

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Agenda

- Objective
- Steps to complete the project
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  - Implementation
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- Next steps
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Objective

- To let the user find out if a city is safe by integrating
  - Air Quality Information
  - Crime data information

Note: In this project SAFE is defined only in terms of Air Quality and Crime rate.

Steps to complete the project

1. Collection of Data
   - Air Quality Information
     - Uses API from http://aqicn.org/api/
   - Crime data information
     - https://www.kaggle.com/marshallproject/crime-rates
     - http://www.city-data.com/crime/
   - City Coordinate Information
     - http://citylatitudelongitude.com/

2. Implementation

- Frame Work
  - Visual studio
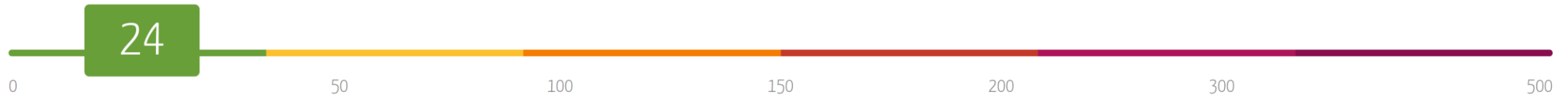- Languages
  - C#, Python, SQL
- Data Base
  - MySQL

Air Quality Information

- API Index
- Air Status (Good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, hazardous)
- Notifications

Result

Air Quality Index : 24

Good

| 24 |
|---|

0   50   100   150   200   300   500

Air quality is considered satisfactory, and air pollution poses little or no risk

Crime data: first step

- Available dataset limited to 68 city
- Shows a pie chart of 4 different crimes for the latest available year
    - Homicides
    - Robberies
    - Rapes
    - Assault
- A line graph for the above crimes and total crimes over the year
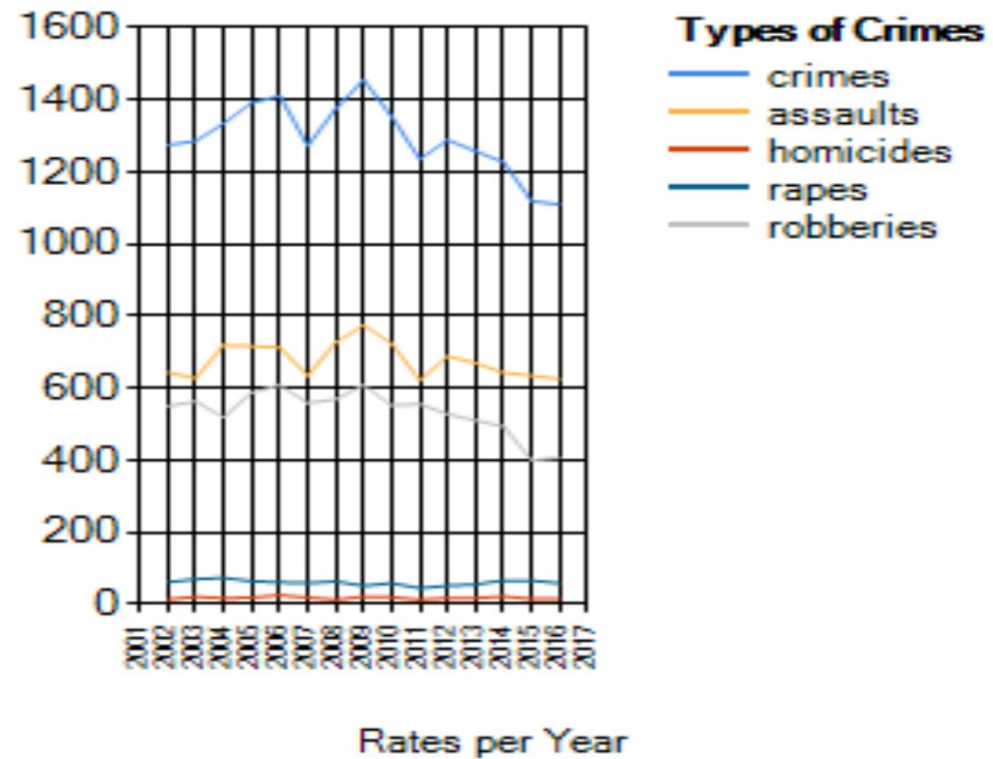- Integrated new data source to overcome the limitation

Result

Crimes In Last Year
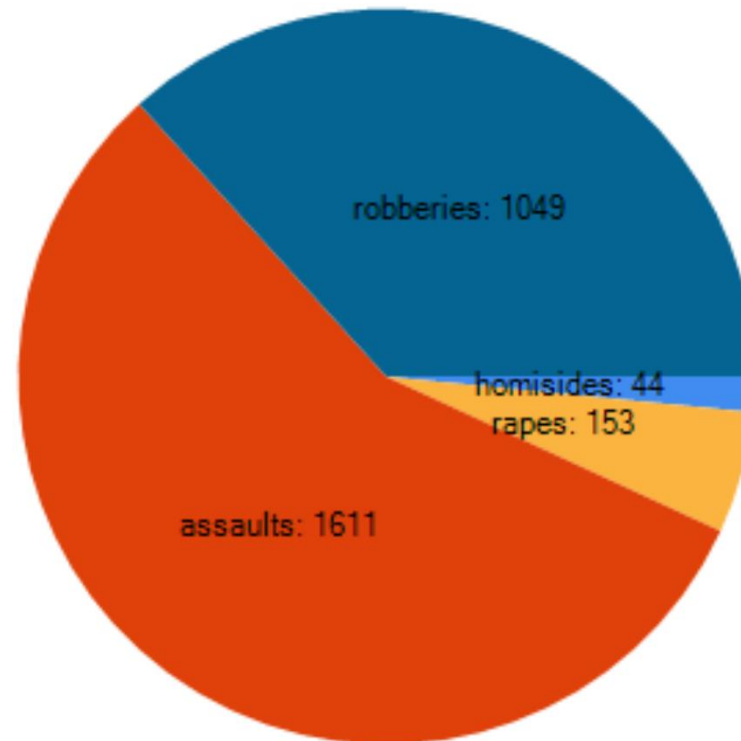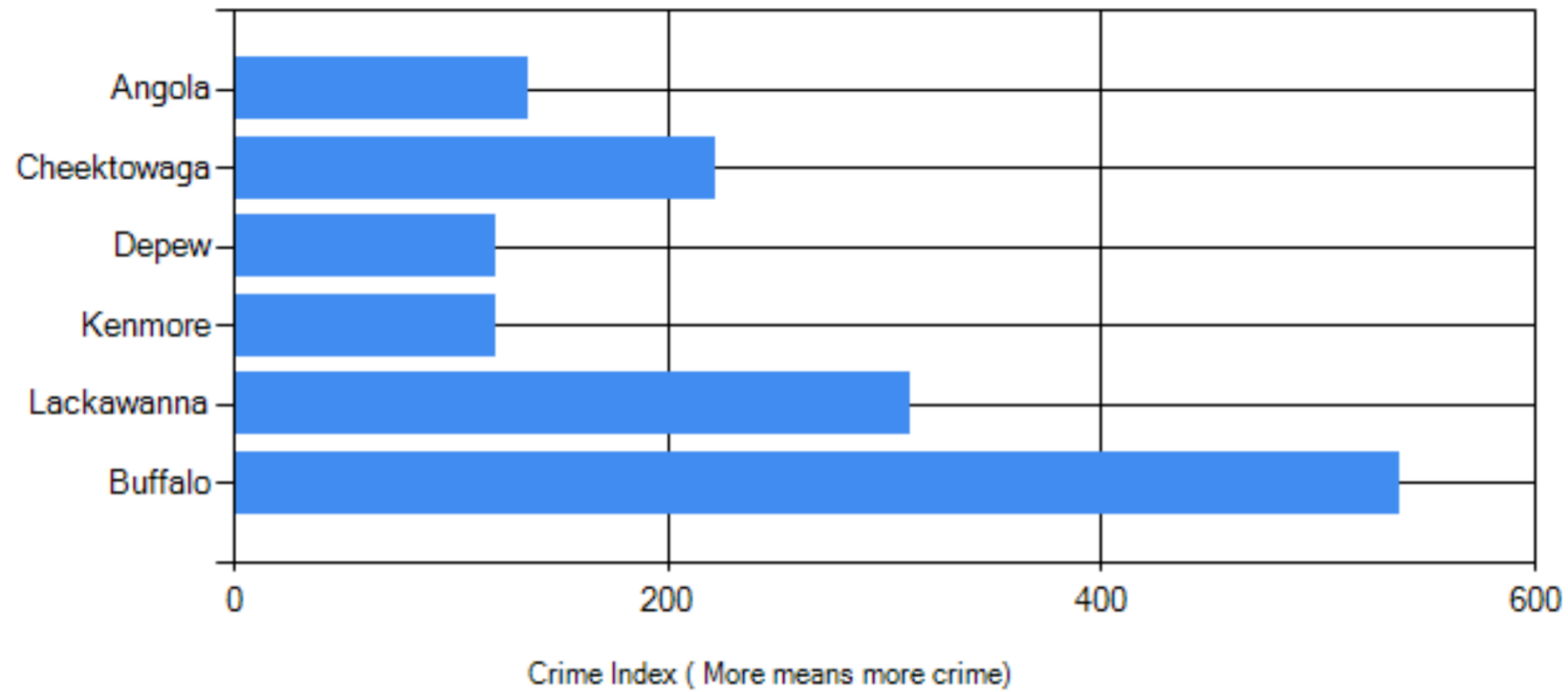
Result

Crimes Over Years

Crime data: Second step

- Crime Index legend (low, average…)
  - Uses information from the site and City-data.com crime rate counts serious crimes and violent crime more heavily. It adjusts for the number of visitors and daily workers commuting into cities

- Comparison with the neighboring cities based on crime index

- Comparison on violent crime rates (different from above crimes) with US Average.

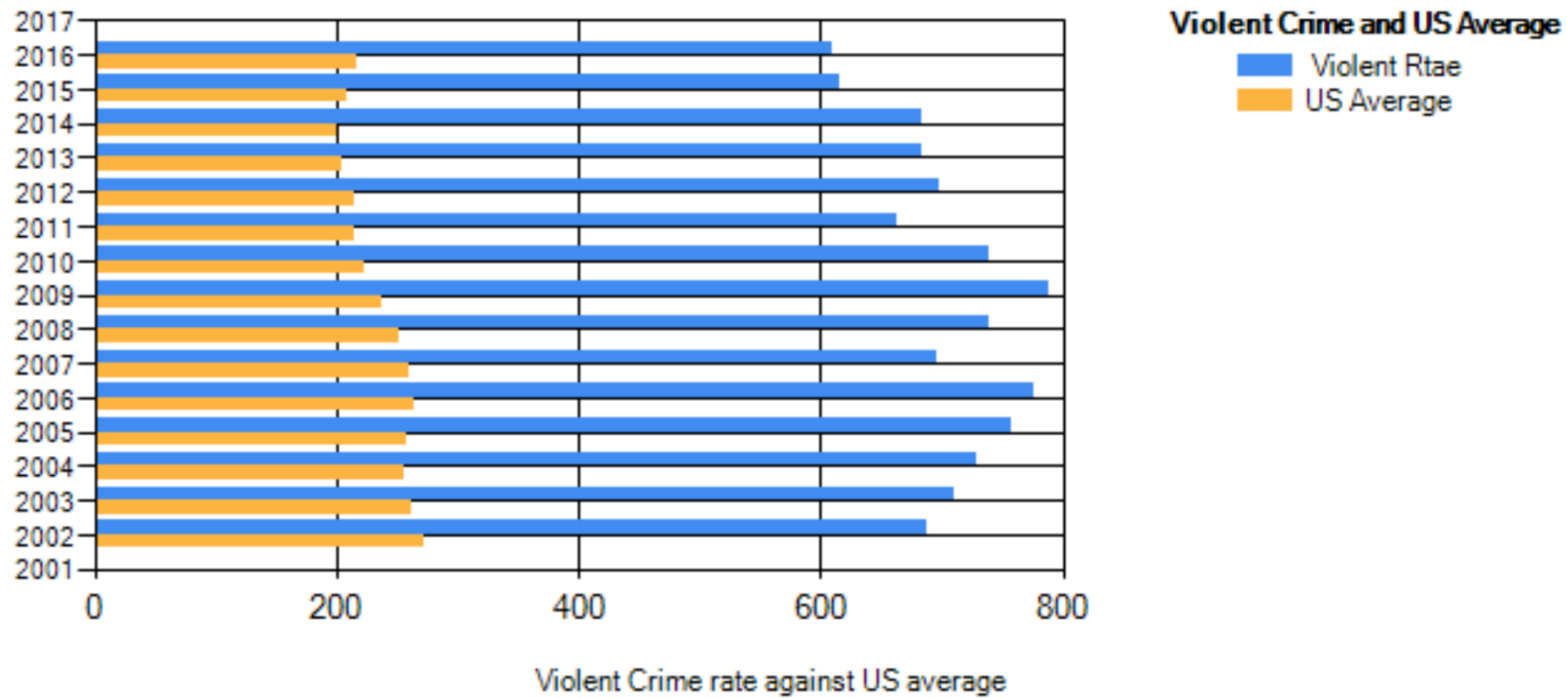# Result

The Crime Index in this city considered as High

Result

Compare With Nearby Cities

Result

Compare With US Average

Challenges faced

- API was returning incorrect data when searching with city names
  - Uses city coordinates to retrieve the Air Quality Information
- D3 graphs didn't work with binding dynamic data
  - Used .net chart area
- Limited cities in the available dataset for crime information
  - Extracted crime data from web
  - 738 cities available
    - 389 – OH
    - 288 – NY
    - 61 – Other states

How the project related to subject

- Integrating Data from different data sources
  - Air Quality Web site
  - Available data set
  - Crime data from web
  - City coordinated data from web
- Approach Used
  - GAV (Querying over the data set)

Next Steps

- Add more cities from remaining states
- Add more information

Conclusion

- Got all needed data to present to the user to determine the safety of the city.
- Over came the limitation of available cities
- Completed the project in sync with the initial plan.

References

- http://citylatitudelongitude.com

- http://www.city-data.com/crime

- https://www.kaggle.com/marshallproject/crime-rates/data

- http://aqicn.org/api/

- https://html5up.net/halcyonic

Questions

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