



City Crime Data

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NUMBER OF CRIMES
RECORDED IN ENGLAND
PER 1,000 PEOPLE



- What we did
- Why we did it
- How we achieved it
- Potential developments





Concept

Our motivation for development

We want to be able to view recent crime information for any given location in England as we feel this would be useful for anybody thinking of perhaps taking a city break in England, or is having to relocate for work etc. and would like to know which areas are the safest.

We also felt that it is nice to know the levels and types of crime for the area in which you live. Could be the impetus for locking away your bike if bicycle theft is prevalent for example.



Concept

User story

As a user

I want to find the **crime data** of my city or other cities.

I want to know the various **types of crime** and the data visualised as chart and table

I also want to find **the police information** of the city.

SO THAT I can find out about the safety of the city where I live or travel and etc.



Concept

Acceptance Criteria.

- Deployed to GitHub Pages.
- Fully interactive (accept and respond to user input).
 - Use at least two server-side APIs
 - Links to an external site.
- Does not use alerts, confirms, or prompts - uses modals.
- Use client-side storage to store persistent data.
- Uses Bootstrap, is fully responsive and has a polished UI.
- Repository meets quality coding standards with a quality README.



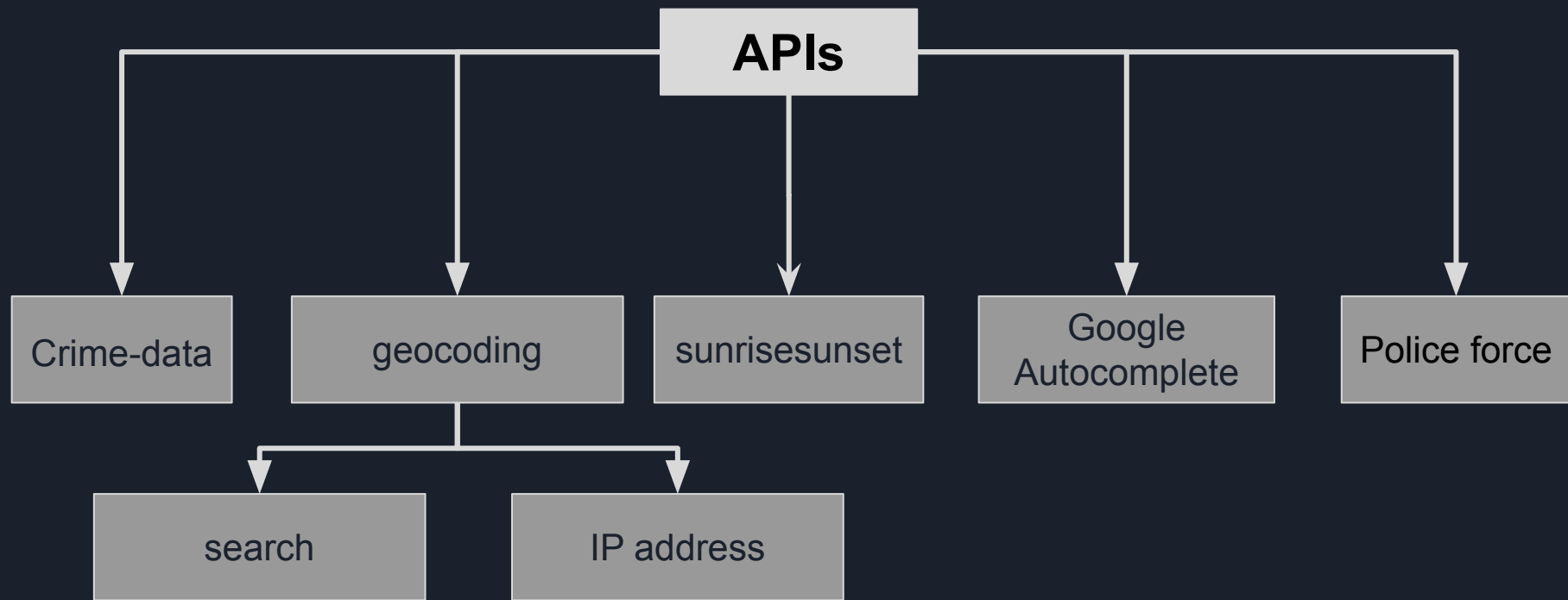
Concept

Acceptance Criteria.

- It will be done when the user can search for a location in England and
 - a. view local crime statistics in graph and table form.
 - b. view information about the location police force (including social media links).
- As the user types a search query an autocomplete list will display of matched locations.
- The user can automatically view data for their current location
- Previous searches will be accessible for future access
- The site theme will switch to a dark theme if it is currently night time at the user location
- User will be able to override the default theme with one button click

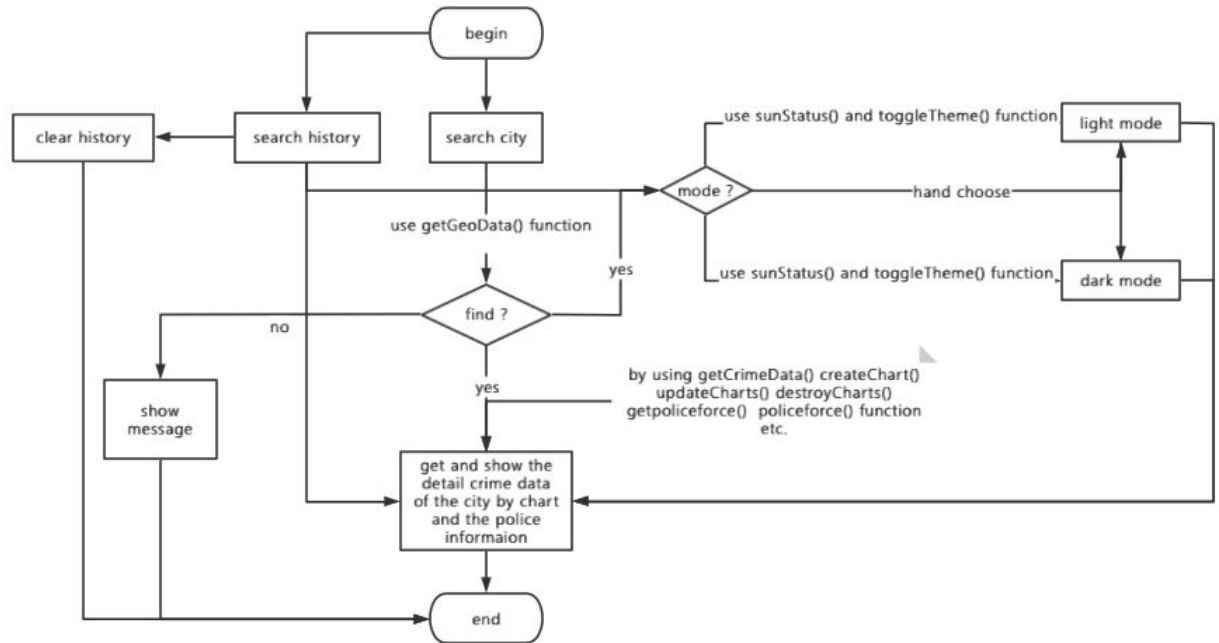
Process

The APIs we used



Process

The main process
and function of the
project





Process

Breakdown of tasks and roles

City Crime Data

Change
Theme

Auto-
complete

Search
history

Get latitude &
longitude of
searched location

Find crime
data

Display the
data in graphs
& tables

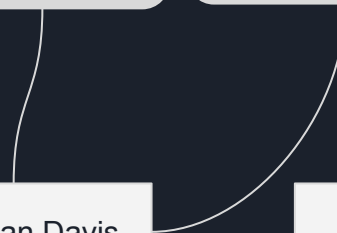
Get police
information

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Hui Zhao

Jonathan Davis

Ihsan Mahmood





Breakdown of tasks and roles

Get latitude and
longitude of
searched location

Get latitude & longitude of searched location

- Openweathermap/geocoding API we used
- The API works by input the search city name
 - If can't find it , it will give the message
 - Else by using the API, it will give the city location(location.lat, location.lon)



Breakdown of tasks and roles

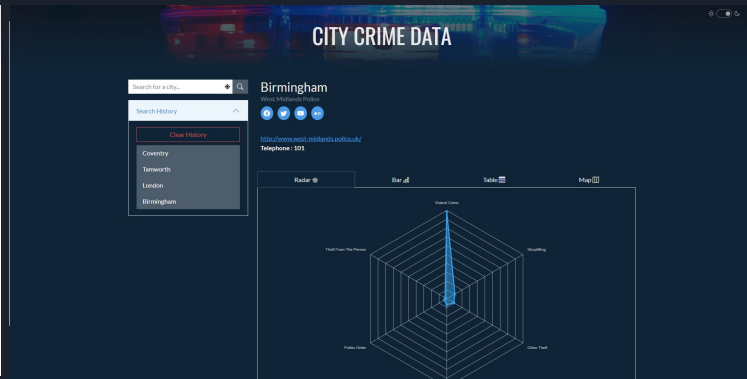
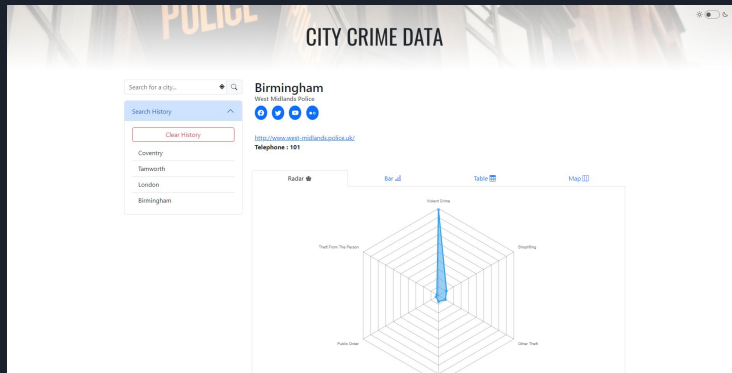
Search history

- Save 10 most recent searches to local storage
 - - Avoid duplicates
- Store latitude and longitude along with location name to reduce API “hits” on subsequent searches
- Push location to the top of the list if it already existed in history

Breakdown of tasks and roles

sunrise/sunset api

- The Api works by feeding it a latitude and longitude. Then it will return the position of the sun and the timing for given location.
- Used moment.js to get current time.
- We used the time of sunrise to indicate a light theme for our website and used the time of sunset for dark theme.
- Depending on when you view the website the theme will be different (2 themes).





Breakdown of tasks and roles

Get police information

- Get Police information
- 2 api's were used
- Locate neighbour which passes in latitude and longitude to give the name of the local police force
- Police data which takes the name of the police force and passes back information about the police force, social media links and telephone number



Breakdown of tasks and roles

Find & display crime data

- The API works by passing a latitude and longitude and it returns a list of all crimes within the local area boundaries
- Loop over entire dataset to summarise into categories
 - - Can be slow with large datasets
- Pass summary data to charts to show top categories in a radar graph and a full summary in the bar graph and data table
 - - Challenging to make graphs resize to reflect the number of categories and re-style for light/dark themes



Challenges & Successes

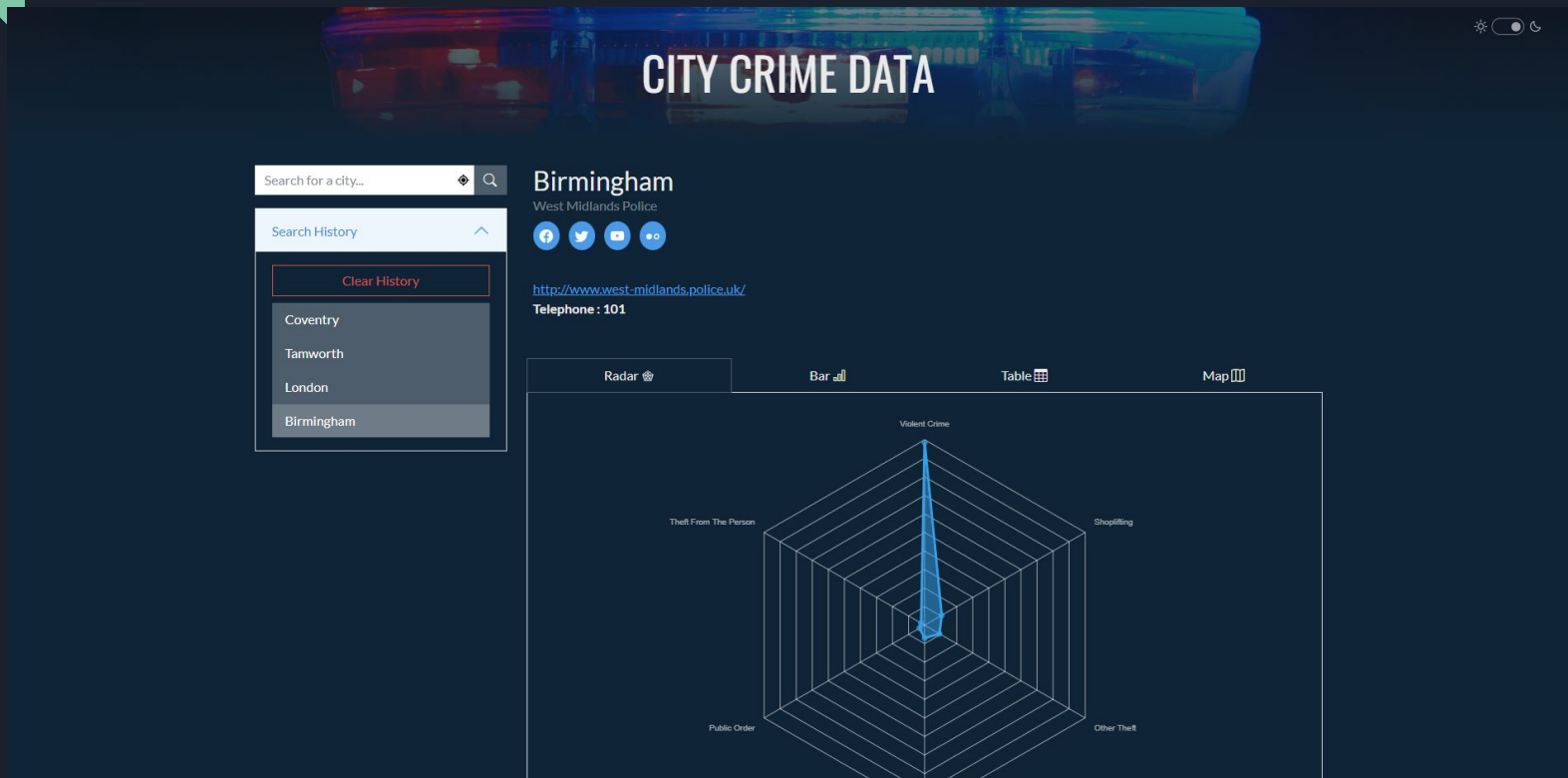
Challenges

- Autocomplete API - CORS
- Police data api - inconsistent data
- Wiki api data
- Limiting searched locations to just the UK

Successes

- Completed the project!
- Autocomplete list functioning
- Elegant theme switching
- Social media links from police force data
- Get precise user location from Geolocation web API

Demo <https://ihsanm.github.io/City-crime-data/>





Directions for Future Development

- Implement a map to show where crimes had occurred
- Improve police information shown
- Add more themes depending on time of day
- Broaden app scope so crime data from multiple countries can be found/visualised



Links

- Deployed: <https://ihsanm.github.io/City-crime-data/>
- GitHub repo: <https://github.com/ihsanm/City-crime-data>



Thank You!