Individual Visualisation Project

London Fire Brigade Records about Fire and Special Service

Outline:

This project visually presents the geographic distribution of emergency incidents responded to by the London Fire Brigade in 2023, showcasing the frequency of incidents in different areas via a 2.5D map. The visualisation project aims to help government agencies to better deploy the geographical location and density of fire stations to improve the efficiency of fire emergency response.

Functionalities Implemented:

The main map displays the frequency of callouts by the London Fire Brigade in various districts in 2023. A panel on the right allows users to select areas to move the main map to the observation area, and buttons are available to switch between displaying layers for fires or special services.

The mouse can be used to drag across different areas to change the map's display orientation and zoom level, with the name of the area being displayed in the top right corner when hovered over.

The top left corner of the page shows the number of fire callouts in different areas of London as recorded by the London Fire Brigade in 2023 (top 20 items), while the bottom left corner presents a line chart of fire callouts from 2018 to 2023, with an option list available to view the situation in different boroughs.

Design Method:

Text Layer: Records the geographical names and location information of each area in London for area name display.

Density Information Layer: Acquires London fire brigade callout data, divides each area in London into hexagons, calculates the number of incidents in the area, and visualizes the data.

Interactive Information Layer: Records London area border information for geographic location information transmission.

Chart Layer: Creates corresponding line charts and bar charts by referencing CSV file data, conveying multi-dimensional information.

Technical Approach:

Mapbox GL JS: Used for 2.5D map visualization, displaying density bar charts for fires and special services.

D3.js and Dimple.js: Used to create bar and line charts, intuitively presenting data content.

JavaScript: Switches between data layers on the map, selects administrative districts from the dropdown menu, zooms to specific locations, and displays the name of the area when the mouse moves over a region.

CSS for Style and Layout: Used for the layout of visualization components, absolutely positioning line and bar charts to ensure information overlay and charts do not affect the map's usability; modifies styling for different content.

Data Source:

[London Fire Brigade Incident Records - London Datastore]