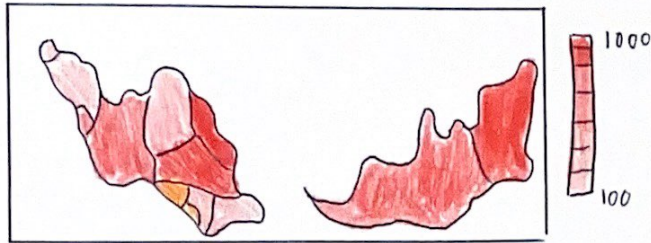
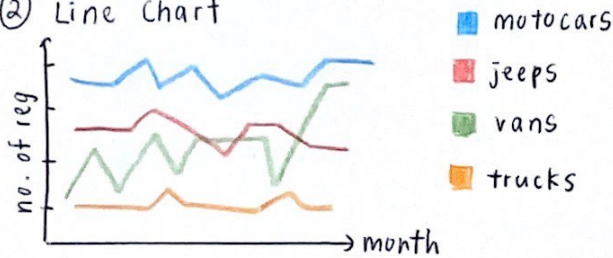


IDEAS

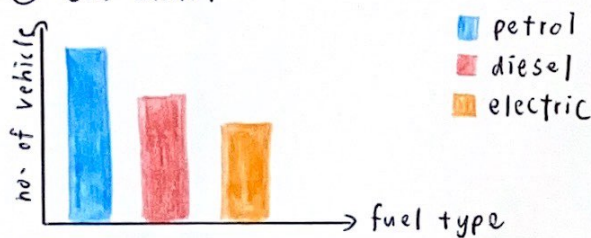
① Geographic Map :



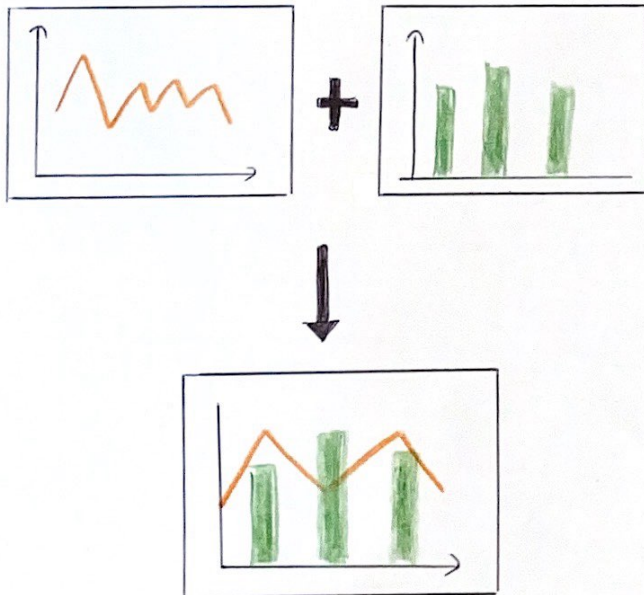
② Line Chart



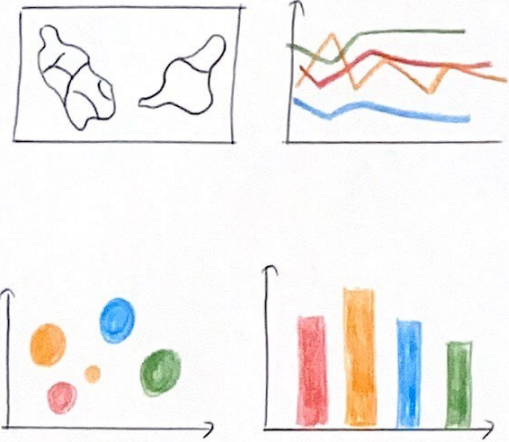
③ Bar chart



COMBINE & REFINE



FILTER



CATEGORIZE

① Geographic Analysis

- Vehicle registration by state.
- visualize geographic difference in vehicle registration, ideal for transport authorities and state-specific insights.

② Trend Analysis

- monthly vehicle registration trends.
- track registration changes over time by vehicle type, useful for identify trends, spikes or declines.

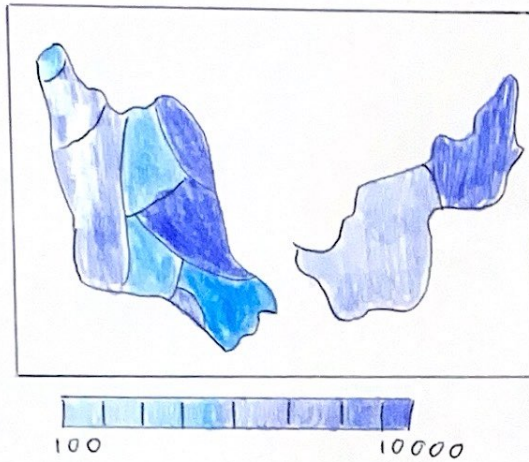
③ Comparison Analysis

- Compare the adoption of various fuel.

QUESTION

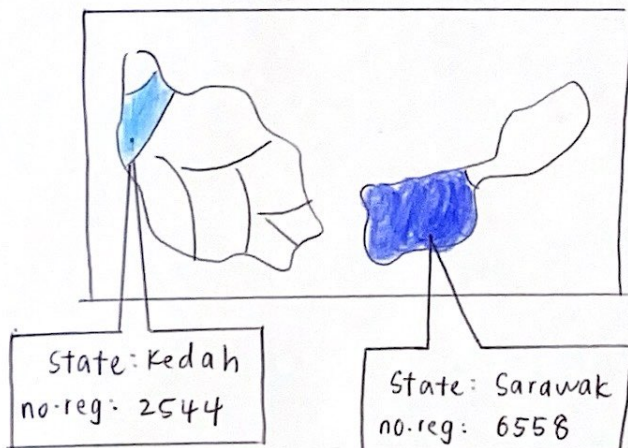
- ① Will these visualisations provide users with actionable insights?
- ② Is there any redundancy that could be reduced to simplify the tool?
- ③ Do these charts effectively communicate different aspects of vehicle registration data?

LAYOUT



- Choropleth map of Malaysia showing vehicle registration by state. Each state will be color-coded based on the number of vehicle registered. Darker colors represent higher registrations, while lighter color represent lower registrations. The legend will be positioned at the bottom left.

FOCUS



TITLE: Data visualisation 2

AUTHOR: Chai Jia Jing

DATE: 26/9/2024

SHEET: 02

TASK: visualize the geographic distribution of vehicle registration

OPERATIONS

user interaction:

- ① Hover over states to see tooltip showing the exact number of vehicles registration in that state.
- ② The color scale provides immediate feedback about which state have the higher or lower registration.

DISCUSSIONS

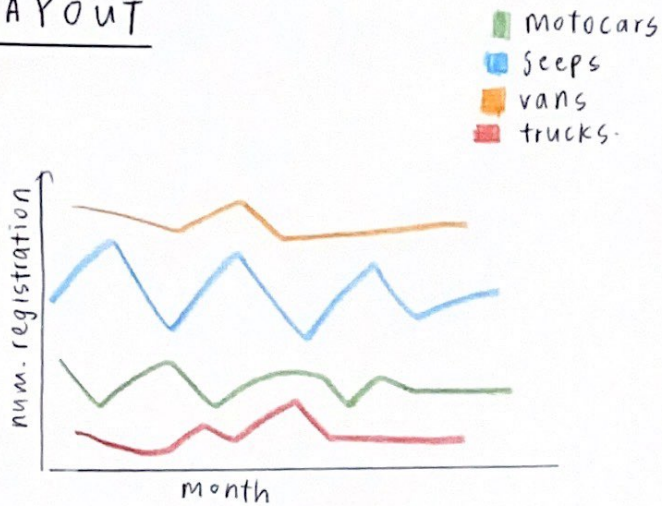
Advantages:

- ① Easy to understand at a glance.
- ② Geographical insights are quickly visible without needing extra filters or interaction.
- ③ Simple and intuitive; tooltips offer more details without cluttering the visualisation.

Disadvantages:

- ① For states with similar registration numbers, it might be difficult to differentiate based on color alone.
- ② users interested in trends over time would need to look at other visualisation.

LAYOUT



- The visualisation will be line chart that displays the monthly vehicle registration from January to August 2024. Each vehicle type (motocars, jeeps, MPVs, etc) will have its own colored line to represent the trend over time. The x-axis will represent the months, while the y-axis will show the number of vehicles registered.

TITLE: Data visualisation 2

AUTHOR: Chai Jia Jing

DATE: 26/9/2024

SHEET: 03

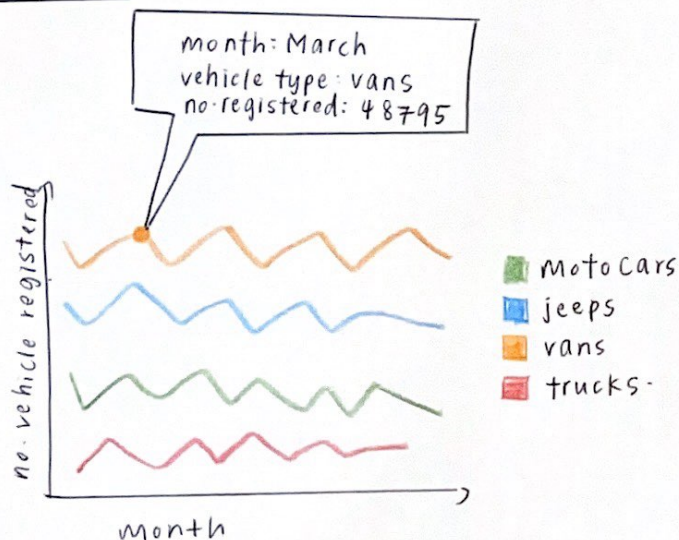
TASK: Show trends in monthly vehicle registration.

OPERATIONS

user interactions:

- ① Dropdown menu to filter and view data for specific vehicles types.
- ② Hover over data points to view specific registrations numbers for each month.

Focus



Select Vehicle Type:

All	✓
Motocars	
jeeps	
vans	
trucks	

DISCUSSIONS

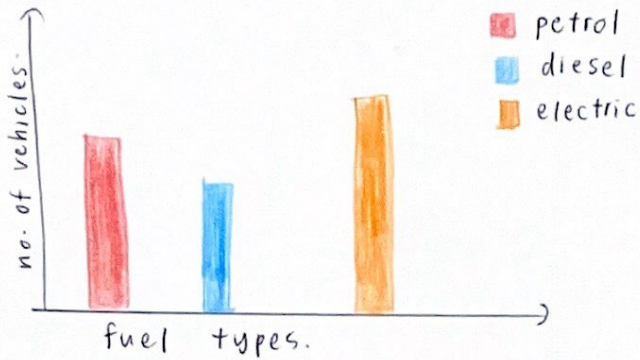
Advantages:

- ① provides an easy way to compare registration trends across different months and vehicle types.
- ② Dropdown filter allows users to isolate specific vehicle types for a more focused analysis.

Disadvantages:

- ① The chart could become cluttered if many vehicle types are displayed at once.
- ② For users interested in cumulative data, additional views or data aggregation required.

LAYOUT



- The visualisation will be bar chart comparing the number of vehicle using different fuel types. The x-axis will represent the different fuel types and the y-axis will show the number of vehicles using each fuel. Each bar will be color-coded by fuel type, and the exact number will appear on hover.

TITLE: Data visualisation 2

AUTHOR: Chai Jia Jing

DATE: 26/9/2024

SHEET: 04

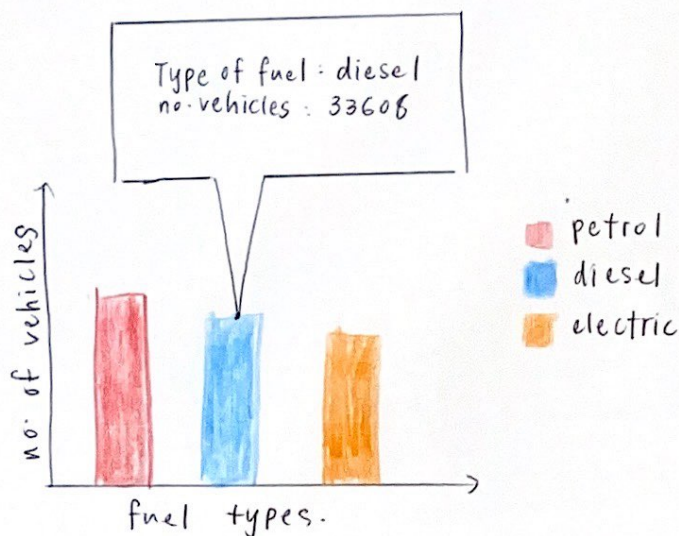
TASK: Compare the usage of diff fuel type among registered vehicles.

OPERATIONS

users interactions:

- ① Hover over each bar to display a tooltip with the number of vehicles registered for the fuel type.
- ② The bars will be color-coded for easier differentiation.

Focus



DISCUSSIONS

Advantages:

- ① Quick and clear comparison of fuel type usage across vehicles.
- ② Provides insights into the popularity of alternative fuels like electric or hybrid options.

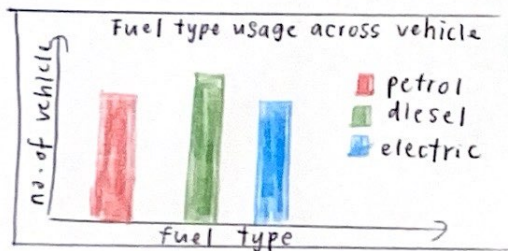
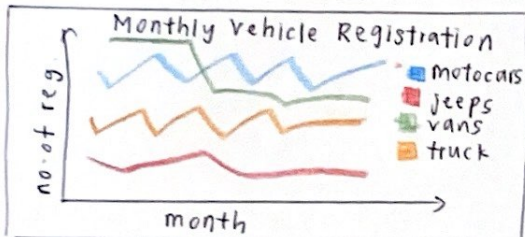
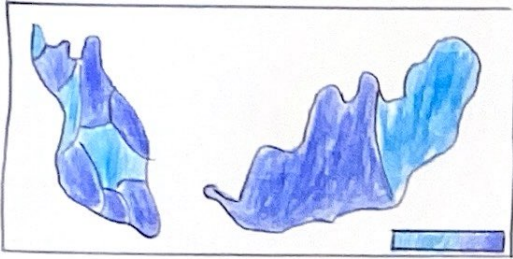
Disadvantages:

- ① Limited to showing current fuel type data, it does not track changes over time.
- ② Without filters, users might not be able to segment this data further by vehicle type or regions.

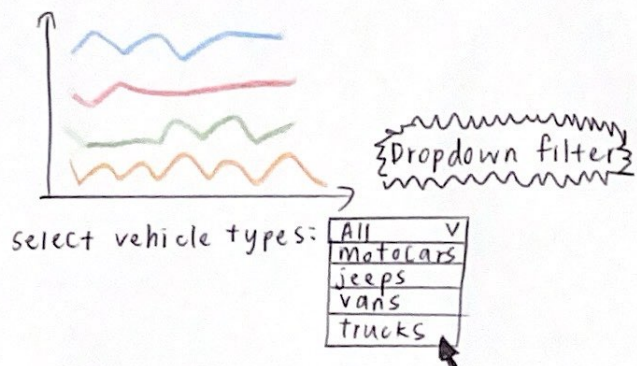
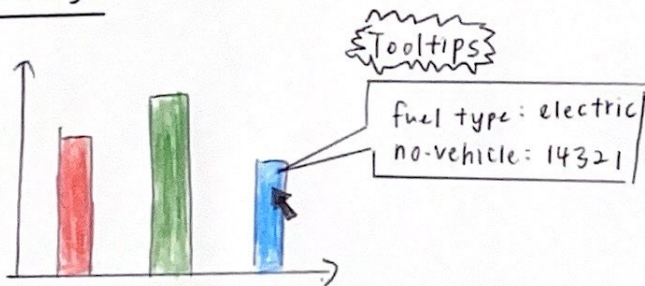
LAYOUT

Vehicle Registration in Malaysia

Vehicle Registration by State



FOCUS



TITLE - Data Visualisation 2

AUTHOR: Chai Jia Jing

DATE: 26/9/2024

SHEET: 05

TASK: Final Implementation Design

OPERATIONS

More details and descriptions:

Each visualisation is accompanied by a title and explanatory paragraph, helping users understand what the data shows and how to interact with it.

Tooltips: Tooltips across all visualisation provide precise data points on hover (eg: state registration count, number of vehicles per fuel type)

Dropdown filter:

In the line chart, users can select a specific vehicle type to view or compare multiple categories.

DETAILS

- ① Estimate of **3 weeks** to fully implement the visualisation.
- ② The visualisation graph might be changes based on implementation.
- ③ **vega-lite** for rendering visualisation, integrated into **HTML** and **JavaScript** for web-based deployment.
- ④ The dataset will be cleaned by **R language** and **python**.
- ⑤ **web browser compatibility** is required for displaying the visualisation.