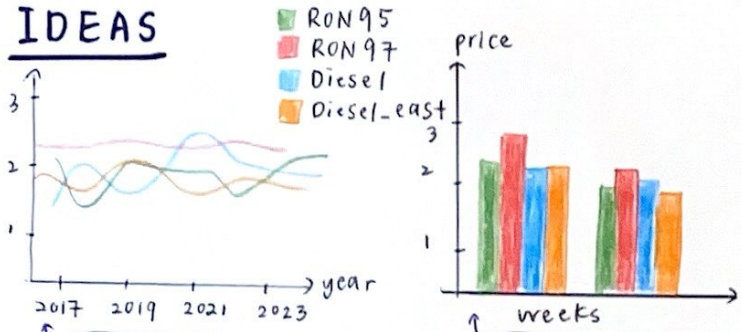
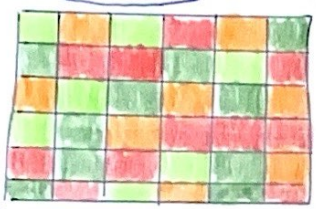
IDEAS



line chart

bar chart



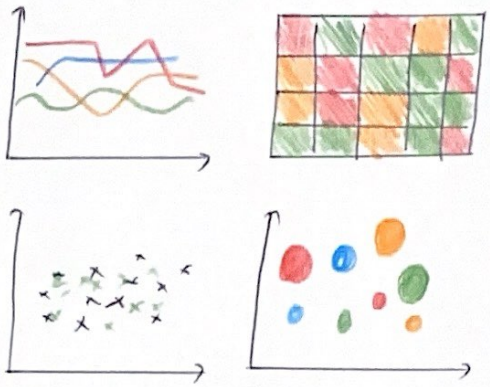
heatmap

price change indicator

area chart

bubble chart

FILTER



CATEGORIZE

Trend Analysis :
Line Chart, Bar Chart

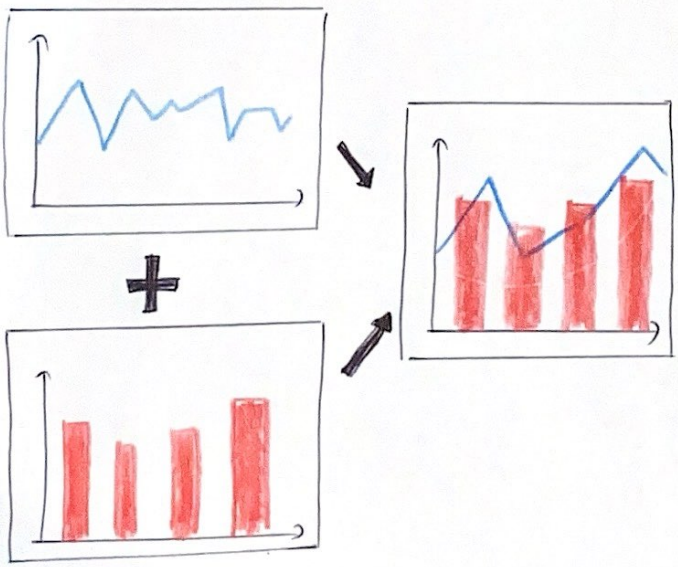
↓

Comperative Analysis :
Heatmap, Scatter plot

↓

Volatility and Impact :
Bubble Chart, Area Chart

COMBINE & REFINE



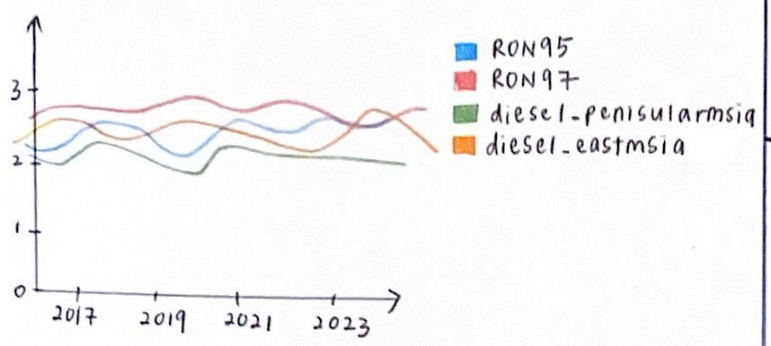
QUESTION

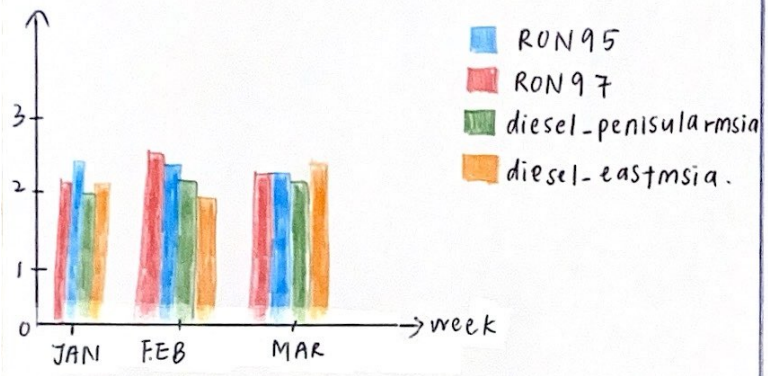
① Will these visualisations provide users with actionable insights.

② Is there any redundancy that could be reduced to simplify the tool?

③ Do these charts effectively communicate different aspects of fuel price dynamic?

LAYOUT





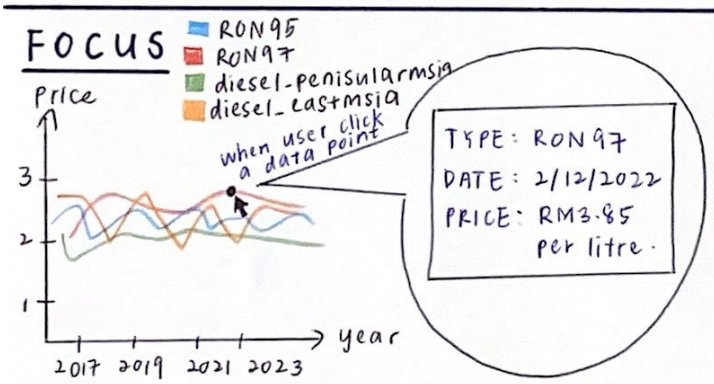
< Average Price over week >

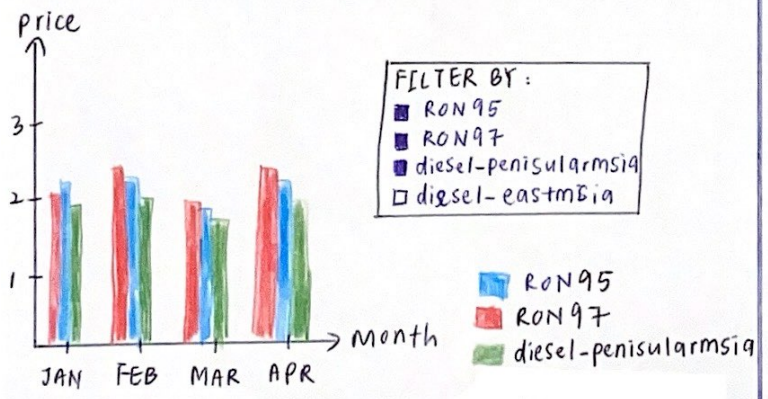
TITLE: Visualisation Project
AUTHOR: Chai Jia Jing
DATE: 17/8/2024
SHEET: 02
TASK: Fuel Price Trend Analysis

OPERATIONS

- When users hover over different points on the line chart, a tooltip will display the exact price of each fuel type on that specific date.
- Users can zoom in on a specific date range to view more detailed trends over a shorter period.
- Users can toggle different fuel types on or off to focus on a single fuel type or compare two types, rather than viewing all types at once.
- As users adjust the time frame on the line chart, the bar chart will automatically update to reflect the price comparisons for the selected dates.

FOCUS





DISCUSSIONS

Positive Aspects:

① Interative elements make it easy to explore data.

② Users can quickly see the proportion of each fuel type's price changes.

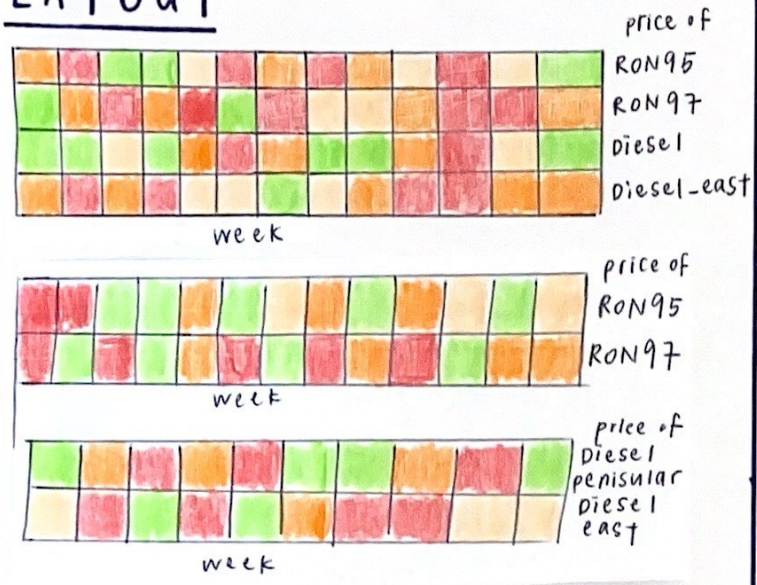
③ Dynamic updates allow for real-time data exploration.

Negative Aspects.

① Might be overwhelming for users with too many elements on one screen.

② users might struggle to interpret data without context or additional information.

LAYOUT



TITLE: Visualisation Project
AUTHOR: Chai Jia Jing
DATE: 17/8/2024
SHEET: 03
TASK: Exploring Fuel Price Correlation

OPERATIONS

- Heatmap Interaction:

① user can hover over cells in the heatmap to see specific price information for each week.

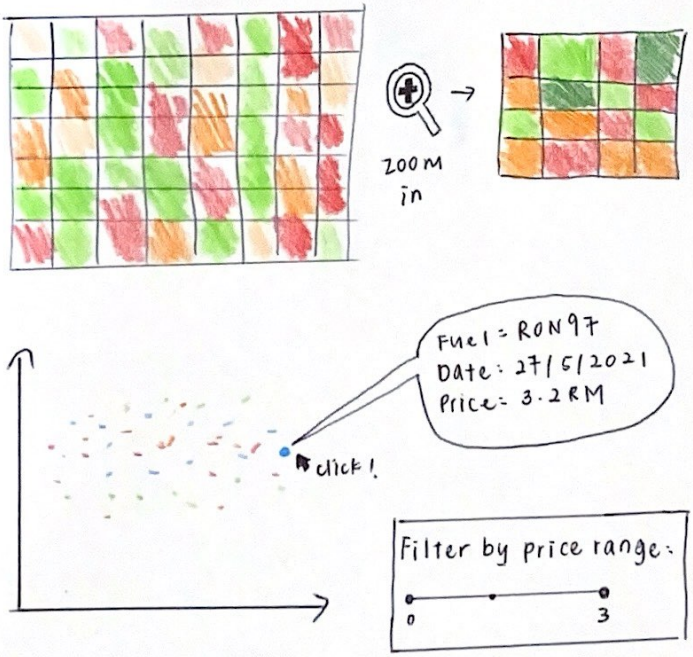
② user could select a date range to see a focused section of the heatmap, with intense color areas signaling higher price.

- Scatter Plot interaction.

① user can filter data points on the scatter plot by fuel type or price range

② Clicking on a cluster of points could zoom in, showing a more detailed view of those particular weeks.

FOCUS



DISCUSSIONS

Positive Aspects:

① Heatmap: Excellent for visualizing patterns over time, allowing users to quickly identify periods of high or low prices.

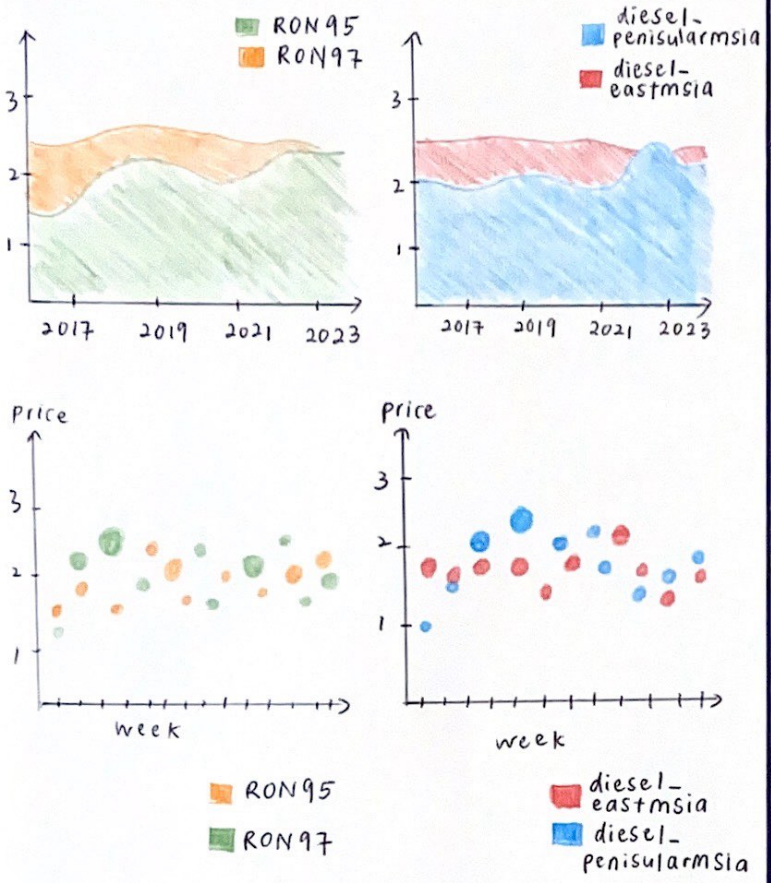
② Scatter plot: Provides a clear view of relationship between fuel prices, which is particularly useful for detecting correlations or outliers.

Negative Aspects.

① Heatmap: Might be less intuitive for users unfamiliar with this type of visualisation, and interpreting the color intensity could be challenging.

② Scatter plot: Overlapping plots could make it hard to discern individual data points without zooming in.

LAYOUT



TITLE: Visualisation Project
AUTHOR: Chai Jia Jing
DATE: 17/8/2024
SHEET: 04
TASK: Area Chart for cumulative trends, Bubble Chart for visualizing volatility

OPERATIONS

- Area Chart Interaction

① users can toggle between a stacked area chart and a separate area chart view. The stacked view helps in understanding the cumulative effect at all fuel prices over time, while the seperate views allow for detailed comparison.

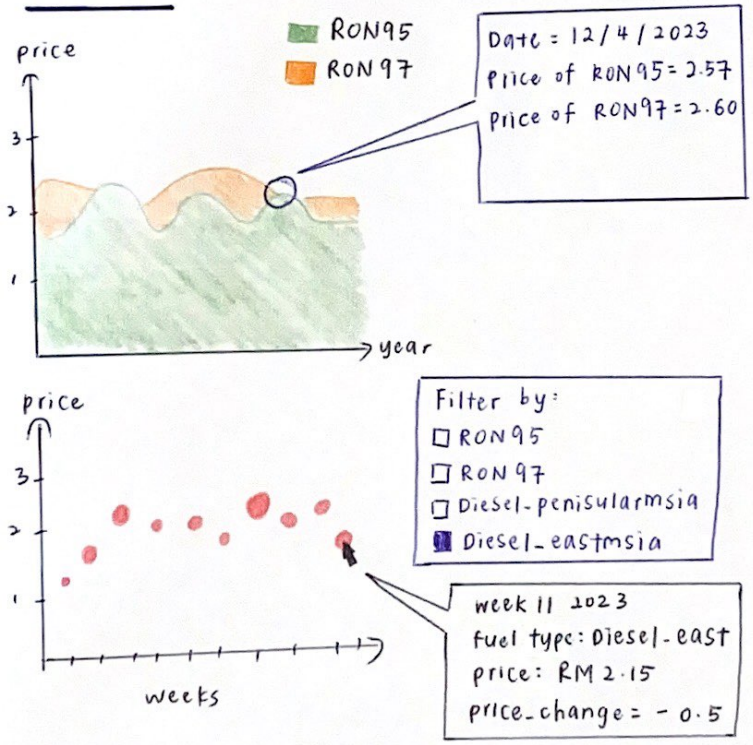
② users can zoom in on a specific time period by dragging a selection box over the chart. This action will magnify the selected period, providing a more detailed view of price fluctuation within that timeframe.

- Bubble Chart Interaction

① users can click on individual bubbles to display a detailed popup with information about the specific week, including the exact price, date and comparison to previous and subsequent weeks.

② users can enable or disable the display of certain fuel types by clicking on a legend items.

FOCUS



DISCUSSIONS

Pros:

① Area Charts: The options to toggle between stacked and seperate views allows users to compare fuel prices both cumulatives and individually. The flexibility caters to different analytical needs.

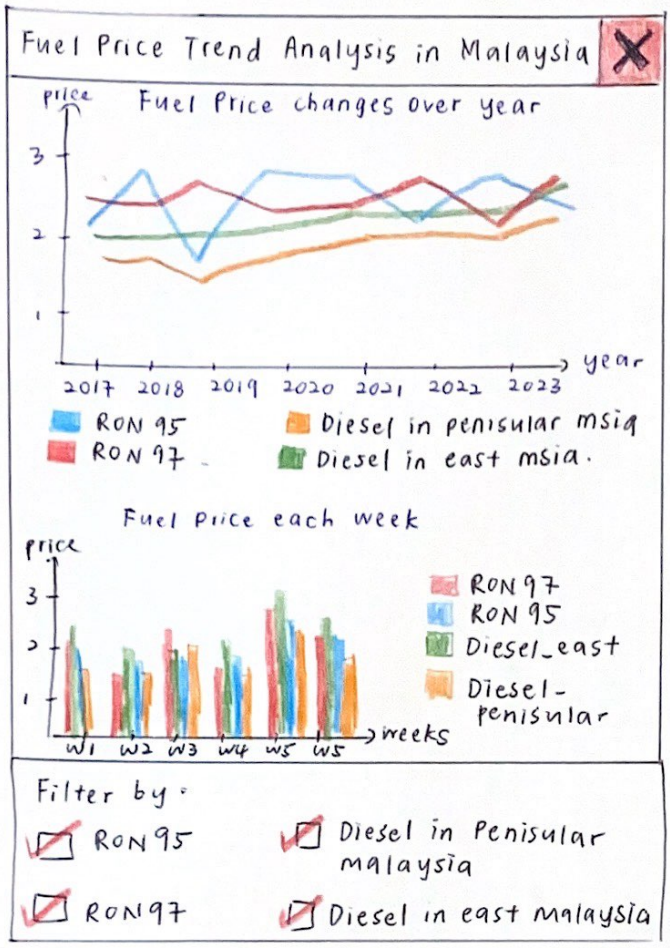
② Bubble Chart: The bubble chart is particularly effective at showcasing periods of significant price fluctuations. The varying sizes of bubbles provides a visual cue to identify weeks with notable price changes quickly.

Cons:

① Area Chart: If there are frequent and large fluctuations in fuel prices, the area chart may become difficult to interpret, especially in the stacked view where overlapping can intensify the visual complexity.

② Bubble Chart: Provides limited contextual information compared to other chart type, making it necessary to rely on additional interaction (clicking) to get more details.

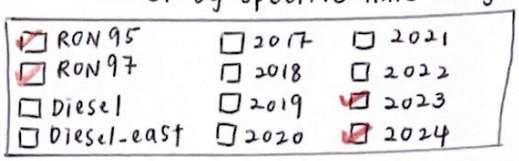
LAYOUT



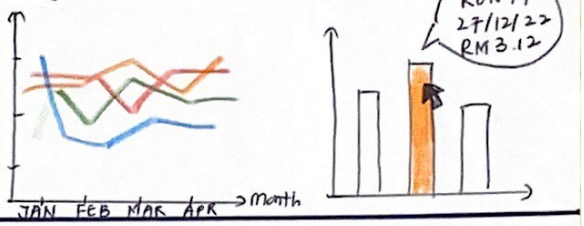
TITLE: Visualisation Project
AUTHOR: Chai Jia Jing
DATE: 17/8/2024
SHEET: 05
TASK: Final Implementation Design

OPERATIONS

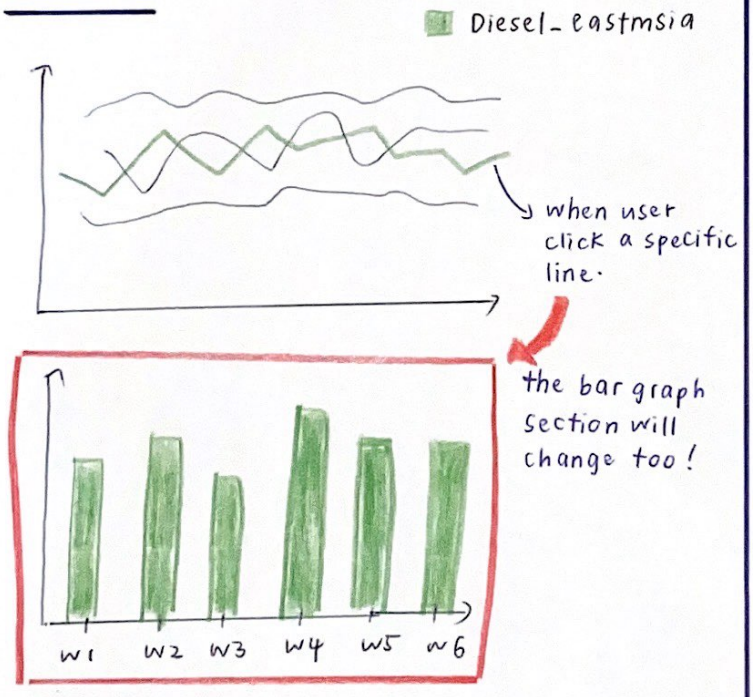
users are able to switch between viewing the data for different types of fuel (RON95, RON 97, diesel) or filter by specific time range.



users could select a specific time frame on the line chart to zoom in on the data, or hover over bars in the bar chart to see detailed information like exact values and trends.



FOCUS



DETAILS

① The implementation will takes at least 2 weeks.

② The visualisation graph might be change based on implementation.

③ The dashboard will be designed using Tableau.

④ The dataset will be cleaned by R language and python.

⑤ Internet browser such as google chrome, microsoft edge is recommended.