

IDEAS

TOURISM DATA → GLOBAL
→ Malaysia

FILTER

TOPICS / STORYLINES

- ① GLOBAL TOURISM ANALYSIS & MALAYSIA DETAILS
- ② ONLY MALAYSIA MAP & MORE INSIGHTS ON DOMESTIC
- ③ FLOW OF INTERNATIONAL TOURIST TO MALAYSIA

STYLES

- ① Visualizing the story of global tourism to Malaysia's part in that
- ② Display the distribution of arrivals
- ③ Straightforward showcase of data

LINE CHART → Pros: - clear timeline - Cons: - lack of data
CHOROPLETH → Shows the amount - confusing
PROPORTIONAL SYMBOL MAP → Exact latitude longitude - no meaning

WEBPAGE → TITLE → FILTERS → YEAR → Purpose of visit
→ ARRIVALS → REGION → Expenditure

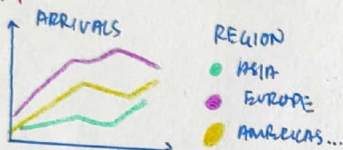
CHOROPLETH MAP



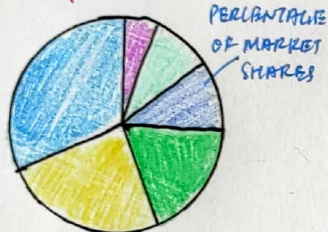
GRATICULES
OCEANS

1. NATURAL BIRTH
 2. MERCATOR
 3. EQUAL BIRTH
- MAIN CHART

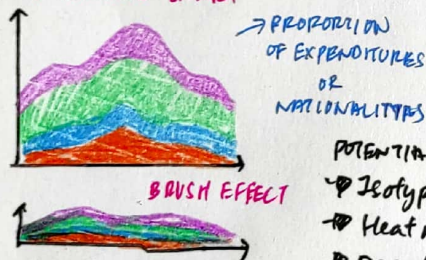
LINE CHART



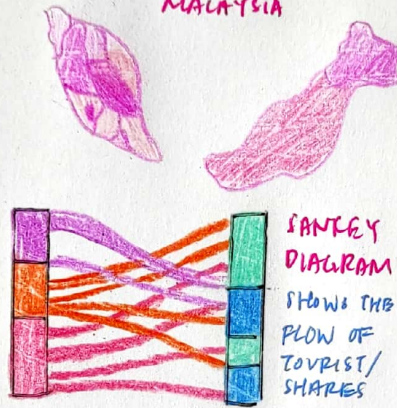
PIE CHART



AREA STACKED CHART



FOCUS ON MALAYSIA



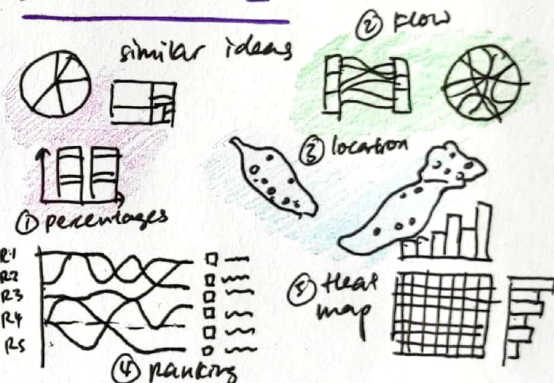
BAR CHARTS



POTENTIAL CHARTS

- Isotype idiom
- Pyramid
- Heat map & Treemap
- Radar
- Donut chart
- Sunburst

CATERGORIZE



DS2:

Global & Malaysia

DS3

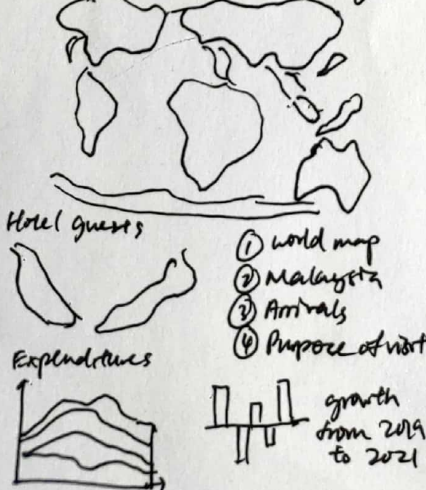
Malaysia with specific latitude and longitude

DS4

Global but focus on the flow to Malaysia

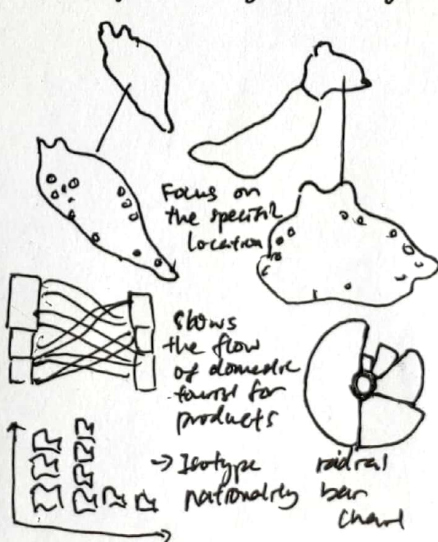
COMBINE & REFINE

DS2 First talk about the world then focus on Malaysia



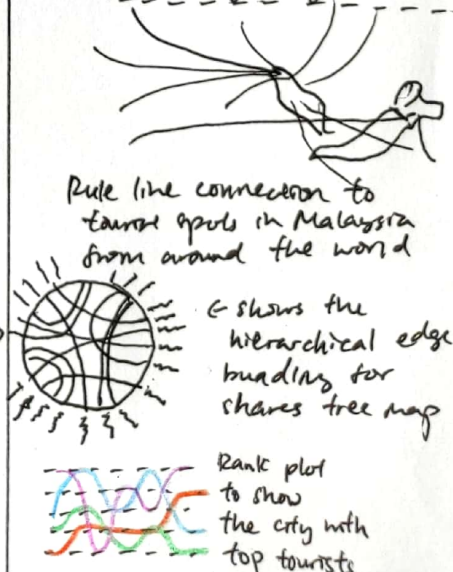
DS3

Start by introducing the Malaysia



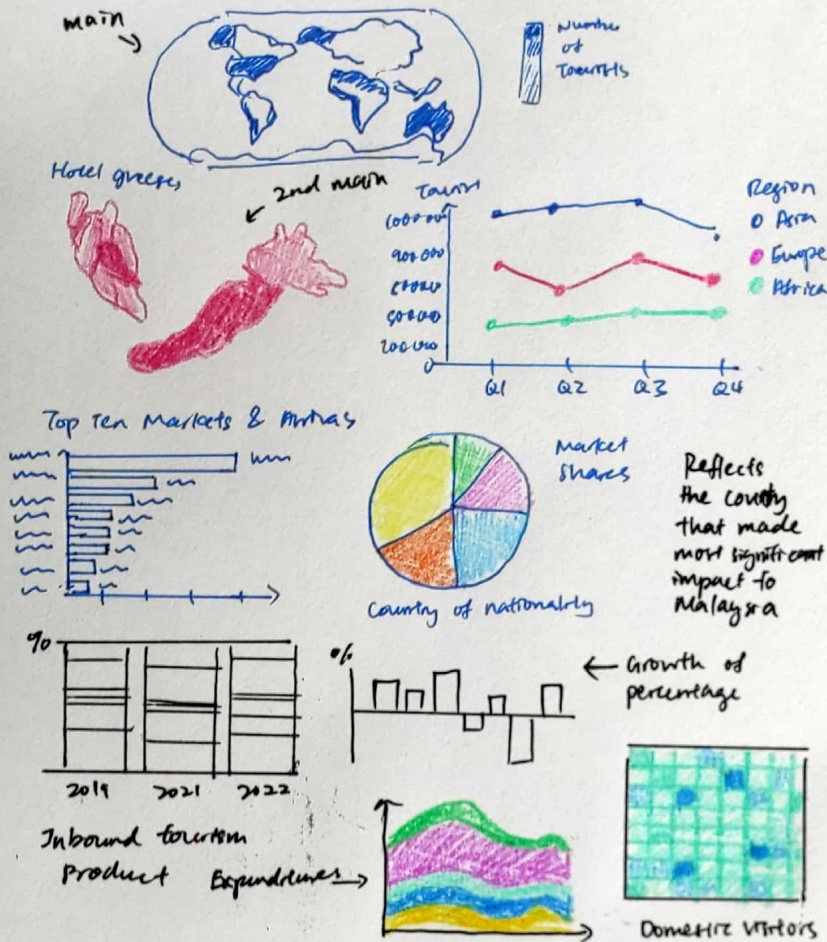
DS4

QUESTION: How can we focus on the details of Malaysia and relate globally?



LAYOUT

TOURISM ARRIVALS & EXPENDITURES



TITLE: Visualisation 2

Author: Amber Pang Hsuan Yueh

Date: 19 Sept 2024

Sheet: 02

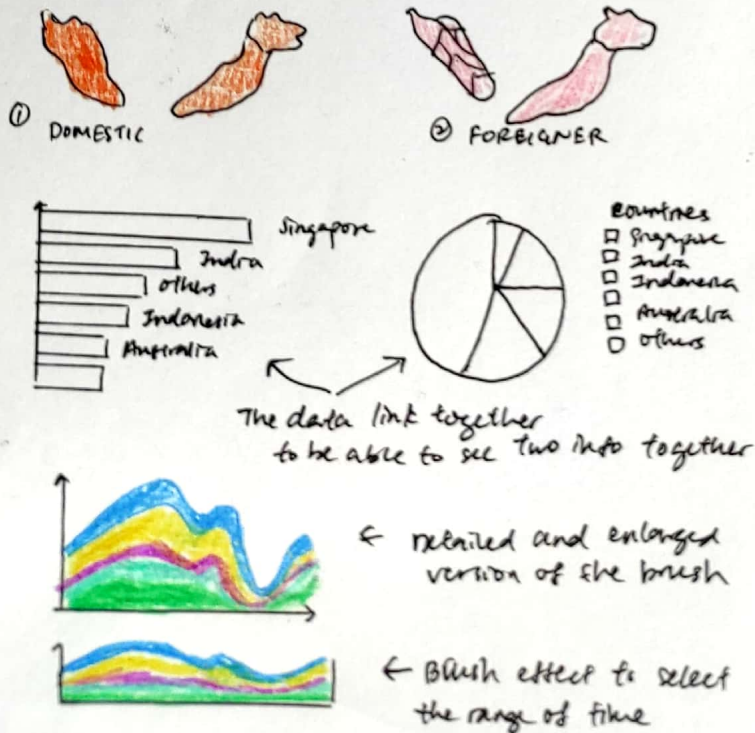
Task: Global & Malaysia Tourism

OPERATIONS

- Displays the world distribution of tourist arrivals
- Allow users to select a specific year to analyse the domestic and foreigner in Malaysia
- Shows tooltip that informs the exact values and note if any data is unavailable
- Provide the option to zoom in or out of any section as the map centre; eg: World, Europe, Asia etc.
- Shows interactive top ten market arrivals that change the pie chart together if selected year
- A brush filter to look into the exact expenditure by product from 2000 to 2022

FOCUS

Easy navigation with clear description



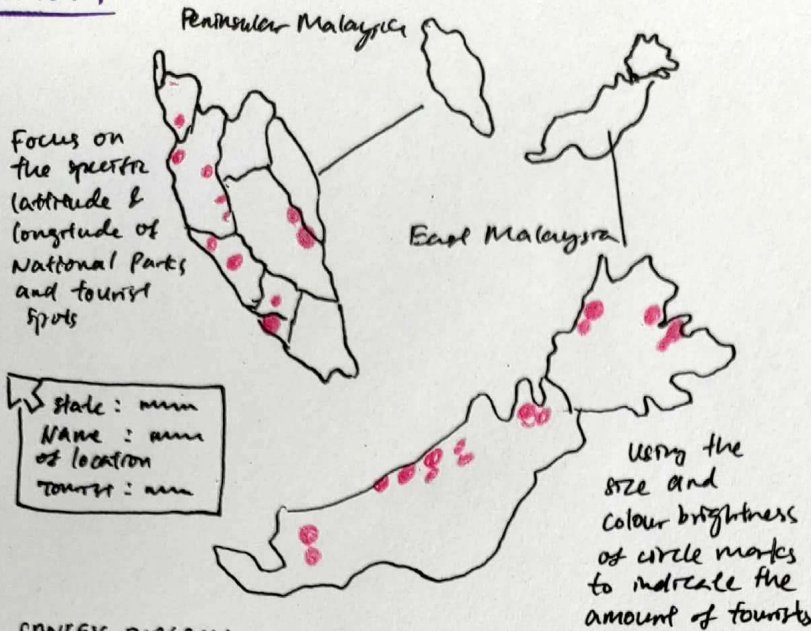
DISCUSSION

Users are able to choose and select an interval of year from the brush filter of the stacked area chart so that they could further analyse the data at specific time.

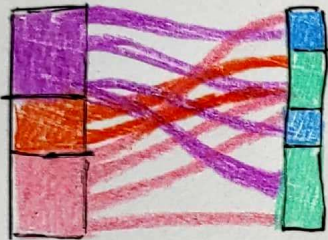
→ Positive

- ① enlarged chart to allow more accessible visualisation
 - ② The side-by-side comparison of domestic and foreigner can essentialise the difference in tourist amount
 - ③ The ranking of top ten market shares is easy to identify by the horizontal bar chart
 - ④ The reflection of market percentage helps visualise the proportion from different countries
- Not much negatives other than not enough annotations.

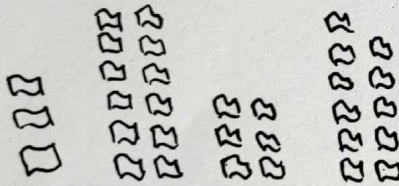
LAYOUT



SANKEY DIAGRAM



Radial Bar Chart



Prototype using flag emoji to indicate the amount of market share

Title: Data Visualisation 2

Author: Amber Pang Hsuan Yueh

Date: 20 Sept 2024

Sheet: 03

Task: Focus on Malaysia & Trends

OPERATIONS

- Users are able to point at the circle to see the information on the location of the map
- The map uses the brush effect where users can filter through the specific interval of years to see the pop-ups or downfall of tourist spots
- By pressing on the sankey diagram, user can select the category of products, to see the radial bar chart showing the percentage of expenditures.
- When user hover above the flag emoji of a country in the prototype chart, it is highlighted and the exact amount shown via tooltip.

FOCUS

The action of hovering above the circle on the map will show the connection to other locations

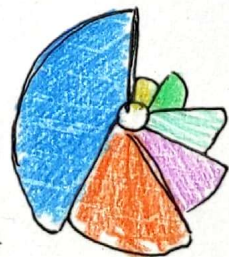
Also a tooltip to show description

The emoji follows the specific country

selecting the emoji will lead to a bar chart for the trend thru the years



pressing on a group of sankey diagram can lead to the change in radial bar chart

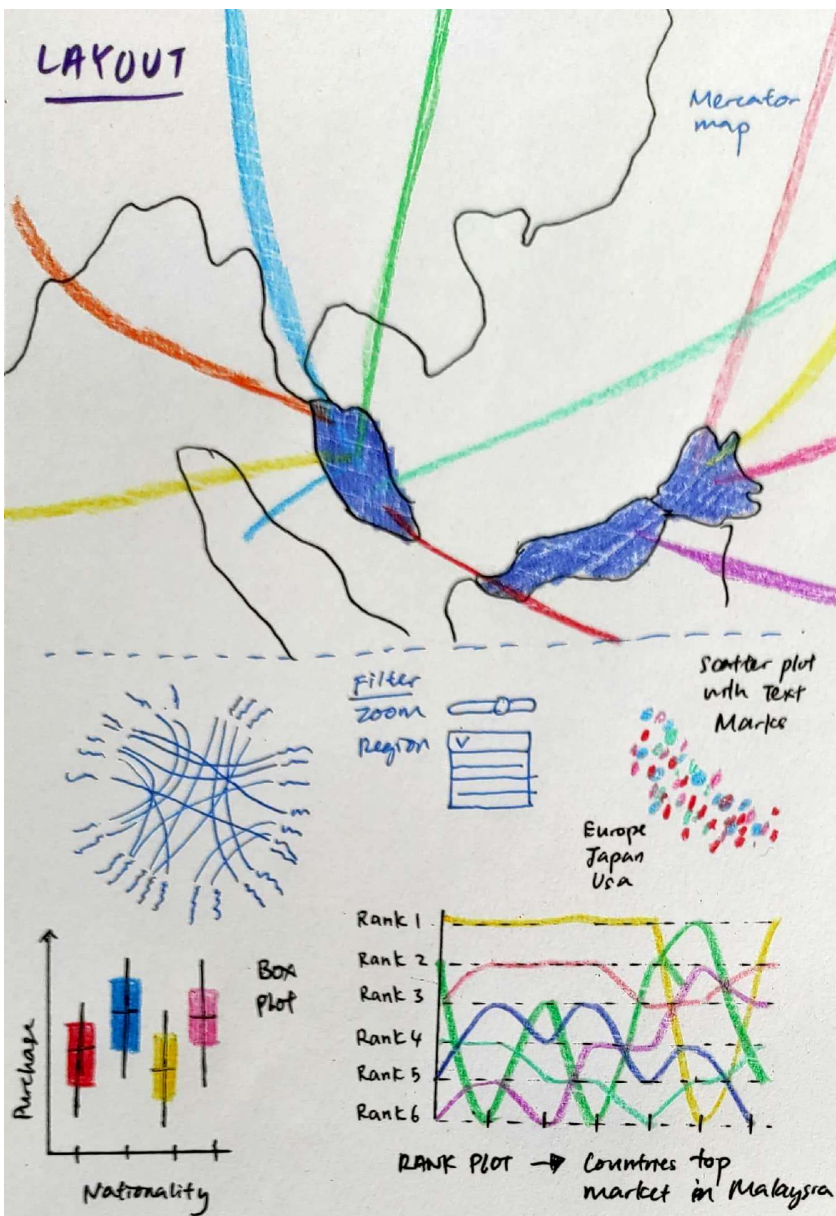


showing specific categories and their percentage

DISCUSSION

- Users are now able to navigate to the specific category in the sankey diagram to see the more detailed percentage scores.
- Instead of choropleth map, I use circles to indicate the exact location on the map
- Positives
 - much more detailed on Malaysia
 - fun visualisation using emojis
- Negatives
 - Appear to be clunky using emoji for the prototype
 - Lack of information for world
- Limitation
 - Could not collect enough data on the specific locations.

LAYOUT



Title : Data Visualisation 2

Author : Amber Pang Hsuan Yueh

Date : 21 Sept 2024

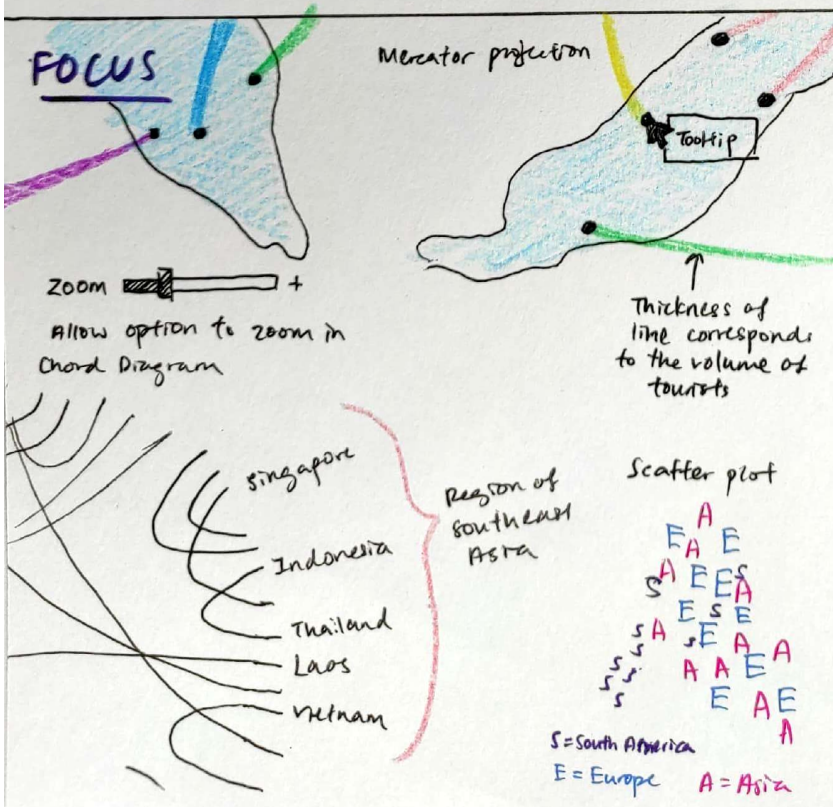
Sheet : 04

Task : Flow of International Tourists

OPERATIONS

- The Mercator projection centers on Malaysia, providing a clear spatial focus
- Lines are applied from other countries to Malaysia, representing the number of tourist arrivals.
- The thickness of each line corresponds to the volume of tourists from that country
- Arcs and Chords shows the flow of tourists, thickness of chords reflects the volume of tourist exchanges between regions
- Scatter plot X and Y axes represent variables of tourist arrivals
- The box let users see the interquartile range (IQR), the outliers are marked.
- Users can analyse the countries ranked based on their tourist contribution to Malaysia.

FOCUS



DISCUSSIONS

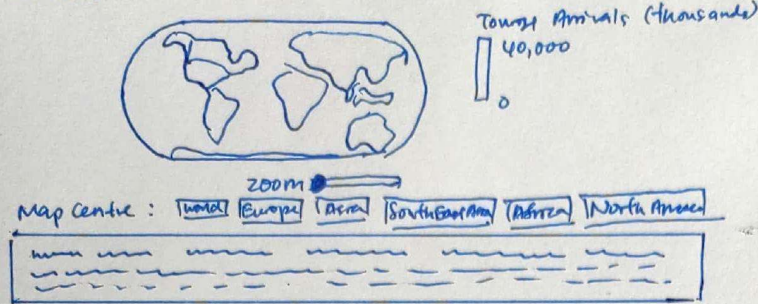
Showing the connection of other countries to Malaysia can emphasize the geographic origins of tourists and shows the spread effectively

- >> Pros >> Cons
- ① Can be interactive (choosing for details) offer more data depth on individual countries
 - ② Chord can summarise a lot of data in a small space, visually appealing
 - ③ Scatter plot with text marks eliminate the need to hover or click on points to identify region.
 - ④ Rank plot easily shows how countries shift over time.
 - ① The map might be crowded if there are many connections
 - ② Countries with close geographic proximity may have overlapping lines, reducing readability
 - ③ Chord diagram can be confusing with many regions or complex data
 - ④ Box plot is not intuitive for everyone, hard to understand.

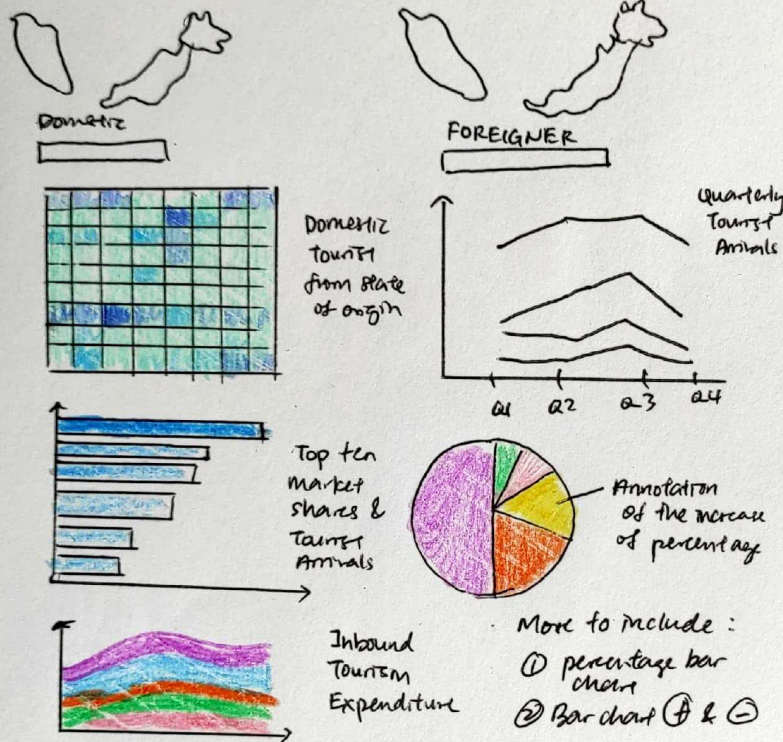
LAYOUT

Scrollable webpage (width 100%)

GLOBAL TOURISM AND ARRIVALS TO MALAYSIA



Hotel Guests Arrivals in Malaysia by States



Title: Data Visualisation 2

Author: Amber Pang Hsuan Yieh

Date: 25 Sept 2024

Sheet: 05

Task: Final Dashboard Page for Tourism on Malaysia

OPERATIONS

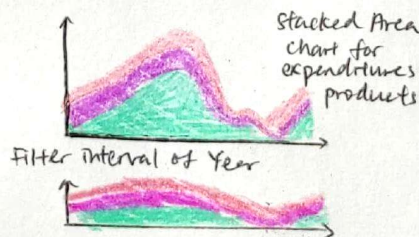
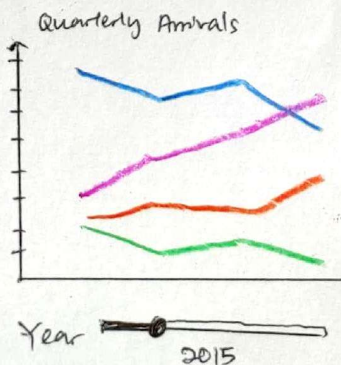
- Choropleth map shows the number of tourist arrivals in different countries along with their expenditures.
- Users can zoom in/out and select specific map centre.
- Line graph displays the seasonal variations in tourist arrivals to Malaysia over different quarters.
- Users can observe how tourism fluctuates throughout the year.
- The stacked area chart shows the distribution of tourism expenditure in different sectors, such as accommodation, transport etc. from 2000 to 2022.
- The horizontal bar chart shows the ranking of countries in market shares.
- The pie chart allows users to see the exact proportion of market shares.
- Brush filter parameter for the stacked area chart so that users can look into specific timing more clearly.

Focus

Map centre: Asia

If user choose to center the map at Asia

our webpage detects that and position to the Asia's coordinate



A slider instead of dropdown to visualize the animation of seasonal trend

DISCUSSION

This scrollable webpage will provide an easy navigation to specific chart and clear hierarchy with intuitive storyline from the bigger picture to the small detail of Malaysia.

>>Pros

- ① Interactive zoom and map centre selection enable users to explore data in detail
- ② The line chart highlights the seasonality of tourism in Malaysia across region, easier to identify peaks.
- ③ The stacked area chart provides clear differentiation between expenditure categories

>>Cons

- ① Map may become cluttered
- ② Hard to decide on the colour scheme for stacked area chart since they are many categories