IDEAS

① visitor count vs year — SGP, THA, CHN, IND

② visitor count vs year — male, female

③ visitor count vs month — colour = year

④ country (SGP, THA, IND, KOR) — male, female

⑤ visitor count vs country — male, female

⑥ based on arrival counts — states

⑦ size based on arrival counts

⑧ ranking vs 2020 2021 2022 2023 2024 — Johor, Selangor, Pahang, Kedah

⑨ visitor count vs year

⑩ visitor count vs month (Jan Feb ... Dec)

FILTERS

① → not feasible as there are too many countries (220), lines will overlap with each other

④ and ⑤ → show similar information, but ⑤ is better because it also shows the total count

③, ⑨, ⑩ → ③ is similar as ⑨ and ⑩, ⑨ and ⑩ are better, to show yearly and monthly trends separately to reduce cognitive load

CATEGORIZE

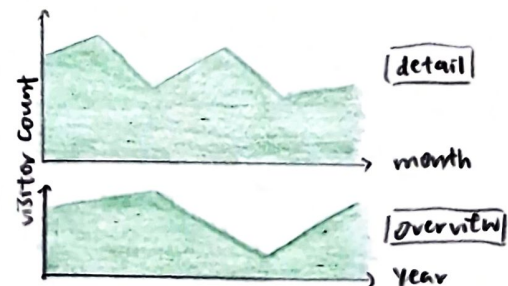origin of foreign visitors
↳ ⑦

↓

trend over time
↳ ②, ③, ⑨, ⑩

↓

details into Malaysia states
↳ ⑥, ⑧

COMBINE & REFINE

concatenate ④ and ⑩ to overview and detail chart

visitor count vs month — detail
visitor count vs year — overview
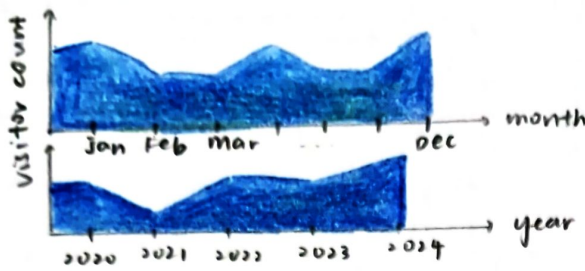
→ add brushing interaction to view year and month trend

QUESTIONS

① is the implementation of the charts doable?

② will the overview and detail chart too difficult to implement?

③ will the bump chart too messy to view?

④ does this meet the audience need?
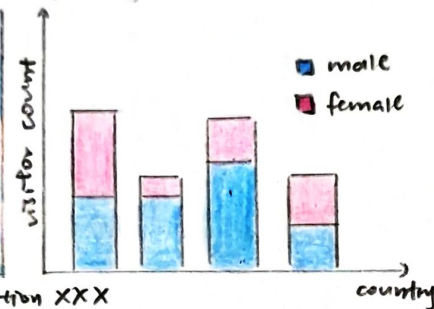
LAYOUT

Foreign Arrivals in Malaysia

overview of trend (2020 to 2024)

visitor count — month
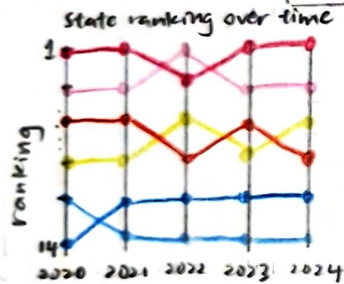Jan Feb Mar ... Dec

visitor count — year
2020 2021 2022 2023 2024

world distribution of visitors

Gender breakdown

visitor count — country
■ male
■ female

Explanation XXX

Trend over time

State ranking over time

ranking
1
14
2020 2021 2022 2023 2024

■ Johor
■ Perak
■ Kedah

Explanation XXX

Trend over state

visitor count — month
State ▽

Explanation XXX

Title: Interactive Poster

Author: Chew Xin Ning

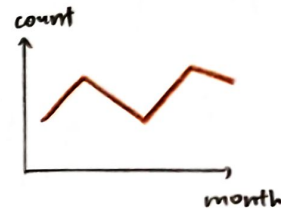Date: 15/10/2024

Sheet: 2

Task: story-like poster

OPERATION

① brushing for overview + detail

visitor count — month
change
— year
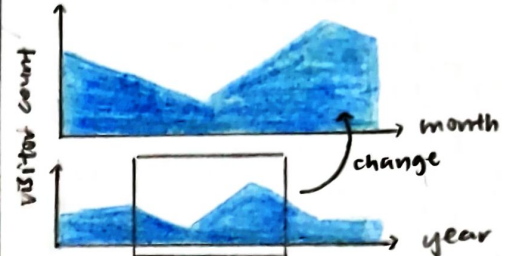
② state filter for line chart

count

| State ▽ |
| Johor |
| Selangor |
| Pahang |
| Kedah |
| Perak |

change →

month

③ Hover for tooltip for all charts

↳ eg:

| State: Johor |
| month: July |
| Visitor count: 4,581,383 |

FOCUS

① overview + detail chart
→ area chart for both
→ overview: trend over years
→ detail: trend over year and month
→ brushing interaction in overview chart

② stacked bar chart
→ for gender breakdown
→ only for the top 10 countries with highest visitor counts to Malaysia

visitor count — country
■ male
■ female

top 10 countries only
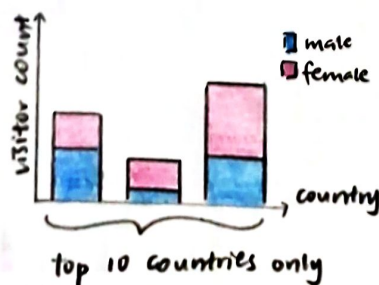
DISCUSSION

Advantages:
→ good user interaction
→ good storytelling
→ clear flow of viewing and navigation
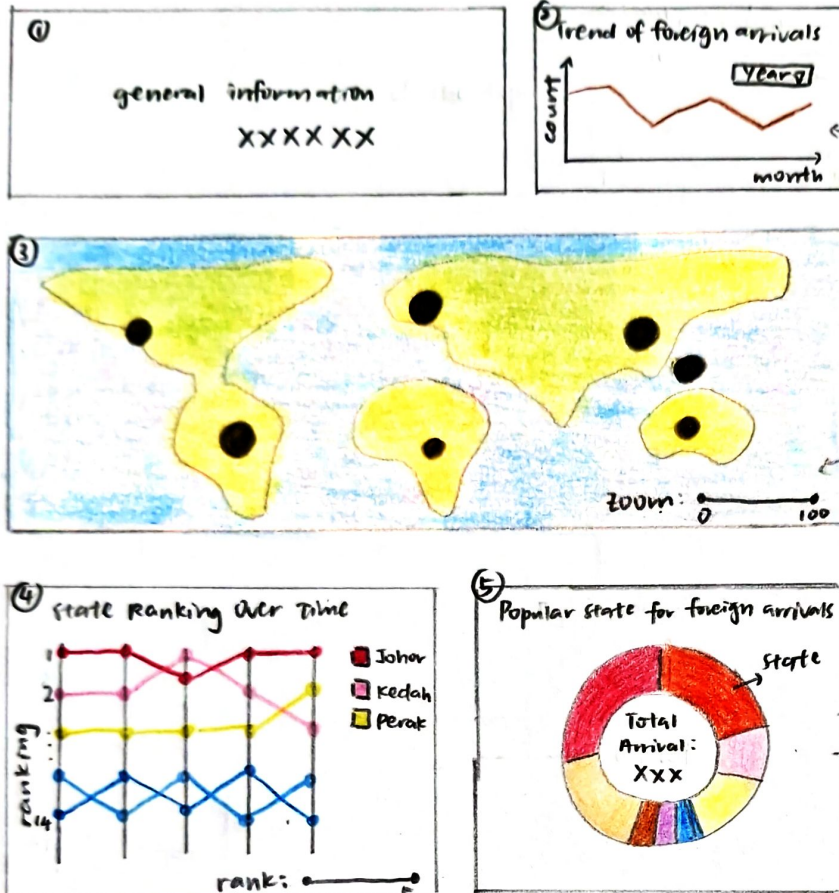
Disadvantages:
→ too many white spaces for overview + detail chart
→ not much explanations for each chart

LAYOUT

Foreign Arrivals in Malaysia

① general information
XXXXXX

③ Trend of foreign arrivals
count / month
Years

③ [world map]
zoom: 0 — 100

④ State Ranking Over Time
ranking / rank
1, 2, ... 14
■ Johor
■ Kedah
■ Perak
rank: ●———●

⑤ Popular state for foreign arrivals
State
Total Arrival: XXX

OPERATION

① filter option for line chart
  ↳ filter by year

Year ▽
2020
2021
2022
2023
2024

② zoom-in feature for World map
  ↳ so viewers may focus on a particular area or continent
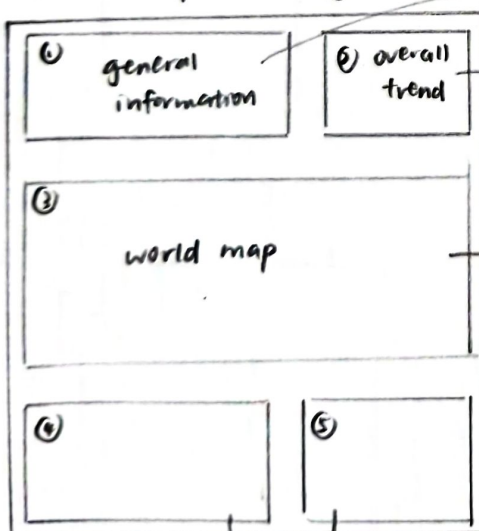
③ rank slider for bump chart
  ↳ top state ranking:

  5 ●————————● 14

  ✳ bump chart will display a minimum of 5 and maximum of 14 rankings

Focus

→ overall poster arrangement:

① general information
② overall trend
③ world map
④
⑤

to provide background knowledge

→ to give viewers an overview of recent trend

→ information about the origin of foreign visitors
  ↳ WHERE are they from

information about their destination in Malaysia
  ↳ WHERE are they going to

DISCUSSION

Advantages:
→ utilise empty space efficiently
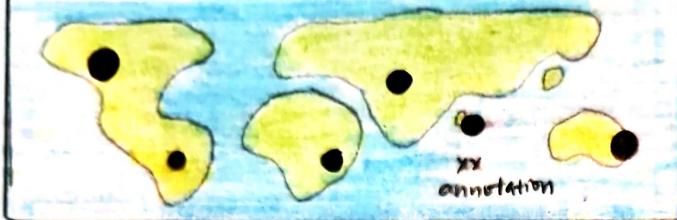→ has main focus, which is the world map

Disadvantages:
→ overload with charts
→ no explanations alongside charts
→ might be messy if empty space are not properly used
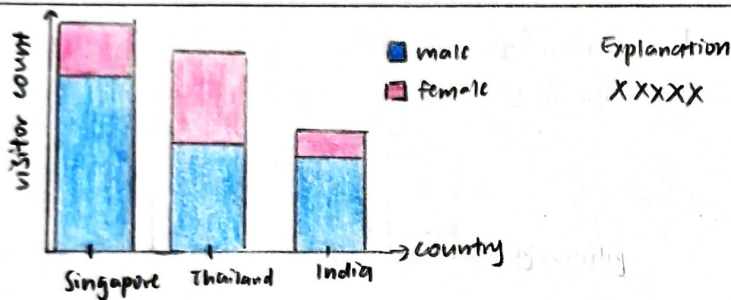→ all segments are disjointed, poor storytelling

LAYOUT

Foreign Arrivals in Malaysia
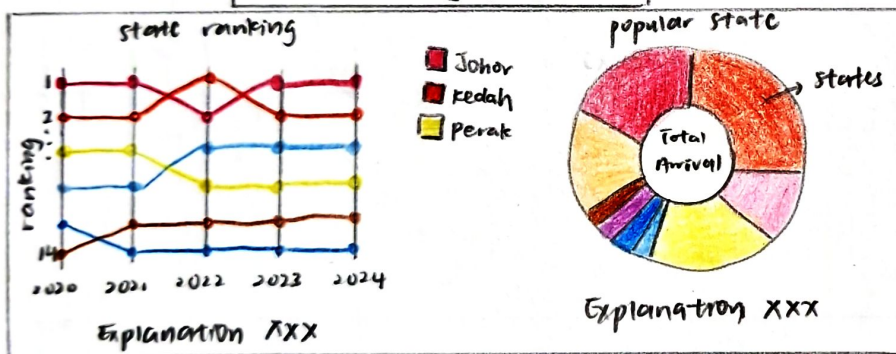
Where are they coming from?

World Distribution of Foreign visitors to Malaysia

xx annotation

Who are they?

visitor count

■ male
■ female

Explanation
X X X X

Singapore   Thailand   India   → country

Where are they going to?

state ranking

ranking

2020 2021 2022 2023 2024

Explanation XXX

■ Johor
■ Kedah
■ Perak

popular state

Total Arrival

states

Explanation XXX

FOCUS

mainly focusing on 3 things

↳ ① Where are the visitors from

② who are they (their genders)

③ Where are they going to in Malaysia

OPERATION

① legend selection for donut chart

eg:

□ Johor ⇨ click

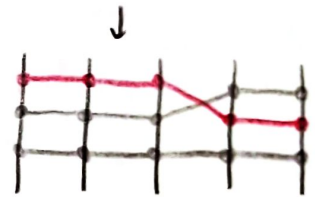only focus on Johor, fade out other states
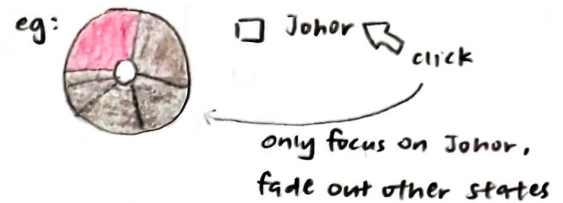
② tooltip for all charts

③ legend selection for bump chart
↳ same as operation 1
↳ eg: ■ Johor ⇨ click

DISCUSSION

Advantages:

→ interactive title for viewers, easier to engage with
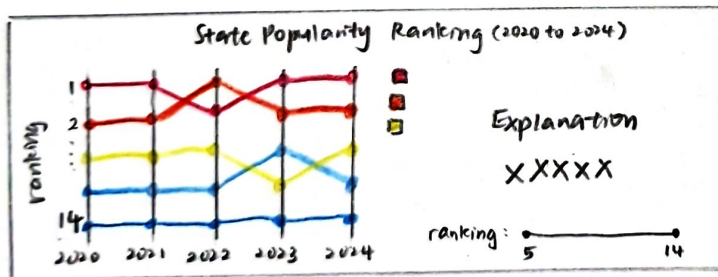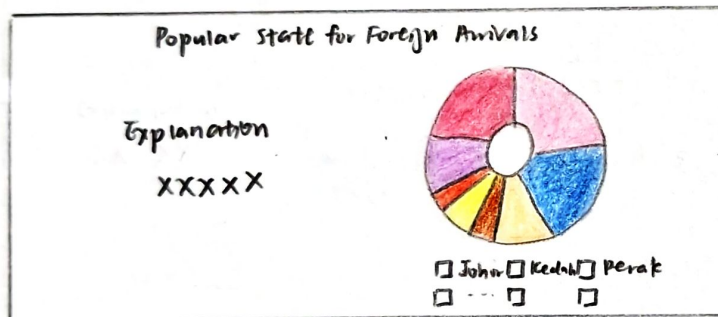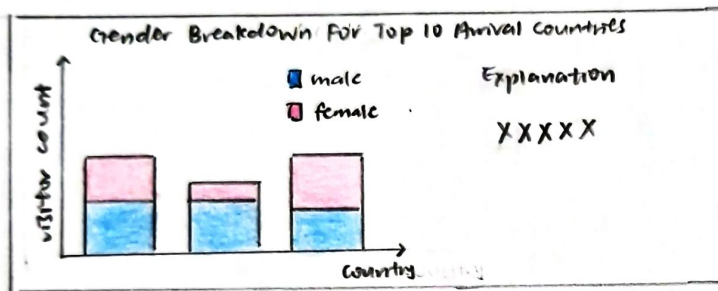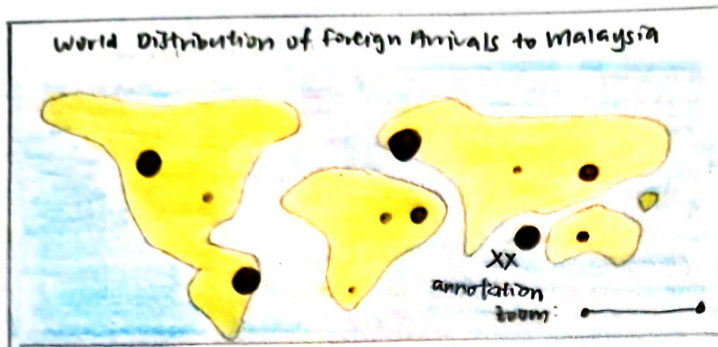→ clear section with headings

Disadvantages:

→ too many titles (heading for each section and title for each chart), hence might be messy
→ lack of interaction with users, as there are not much complex feature to interact with

LAYOUT

Foreign Arrivals in Malaysia

Analysis of Trend From 2022 to 2024

World Distribution of foreign Arrivals to Malaysia

XX
annotation
zoom

Gender Breakdown For Top 10 Arrival Countries

visitor count

■ male
■ female

Explanation

XXXXX

Country

Popular State for Foreign Arrivals

Explanation

XXXXX

☐ Johor ☐ Kedah ☐ Perak
☐ --- ☐ ☐

State Popularity Ranking (2020 to 2024)

ranking

1
2
:
14

2020 2021 2022 2023 2024

Explanation

XXXXX

ranking: •————•
5   14

OPERATION

① tooltip for all charts

② legend selection for donut chart and bump chart

■ Johor
⇧
click
→

1
2
3
:

■ Johor
⇧
click

1
2
3
:

③ slider for bump chart

ranking

1
2
3
4
5
6
7

rank:
•————•
5   14

if user slides to 5

ranking

1
2
3
4
5

DETAILS

Dependencies:

→ vegalite for visualization, RStudio for data cleaning, csv files to store data

Estimated time and effort:

→ 2 days to create all idioms
→ 1 days to write explanations
→ 2 days to arrange and finalize visualizations

FOCUS

focusing on 4 sections

↳ ① origin of foreign visitors

② gender breakdown of visitors

③ popular state among foreign arrivals

④ state popularity over years

* visual hierarchy in text and tooltip
* colour-coded text
* annotations on charts