

# Ideas Sheet No. 1

Why?

Show key aspects of Malaysian air travel

Prioritize function

- Proportions
- Origin-destination
- Comparison

Target demographic:

- Regular people
- Focus on accessibility

Filter

Keep:

1. BI-directional bar
2. Isotype
3. Normalized stacked bar
4. Proportional symbol
5. Flight map

Question

Does this satisfy the Why?

Flight path

Show key aspects of air travel

Flight frequency

Flight type

Accessibility

Map paths

Intuitive graphs

Images

Proportion

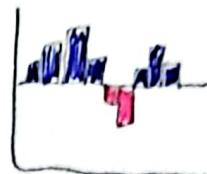
Comparison



Bar chart



Line chart



BI-directional bar graph

Comparison + Proportion



Stacked bar



Normalized stacked bar (100%)



Isotype

Proportions

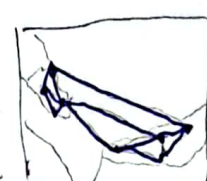


Proportional symbol



Point chart

Origin-Destination



Flight map

Rest removed due to simplicity and overlap in function

Categorise

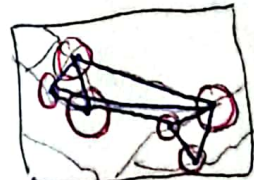
Data focus

Flight frequency  
1, 2, 4, 5

Flight type  
3

Flight path  
5

Combine & Refine



Prop. symbol + Flight map

Plane symbols for isotype

Title: Page Layout

Layout

Author: Dylan Wong  
Zhen Ning

Student ID: 32845480

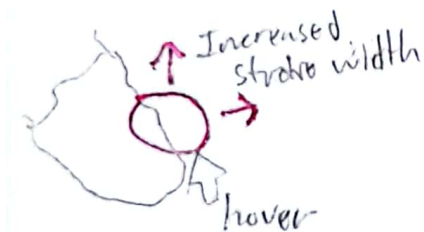
Date: 24/09/2024

Sheet No.: 2

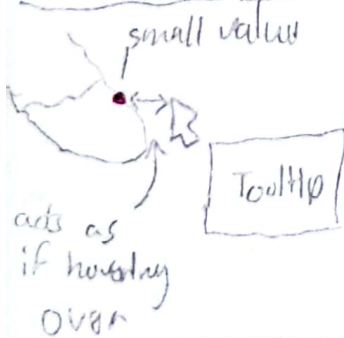
Task: Initial Design 1

Focus

Highlight



Hover near small value



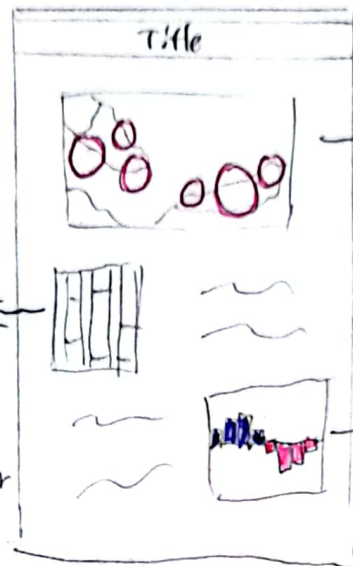
Discussion

+ Highlighting makes it easier to see which airport has been selected, especially if graph is crowded

+ Follows natural viewing direction (left-right, up-down)

+ Easy-to-follow linear narrative

+ Minimal sightlines



Proportional symbol  
- Total passengers per airport

Bi-directional bar  
- change in air travel over time

- Scrolling layout  
- linear narrative

UI

Highlight

- Hover cursor near circle mark to highlight circle mark



Title: Combined Map Layout

Author: Dylan Wong  
Zhen Ming

Student ID: 32845480

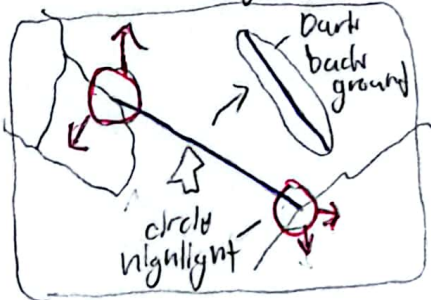
Date: 24/09/2024

Sheet No.: 3

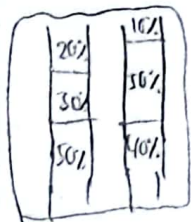
Task: Initial Design 2

Focus

Highlight line

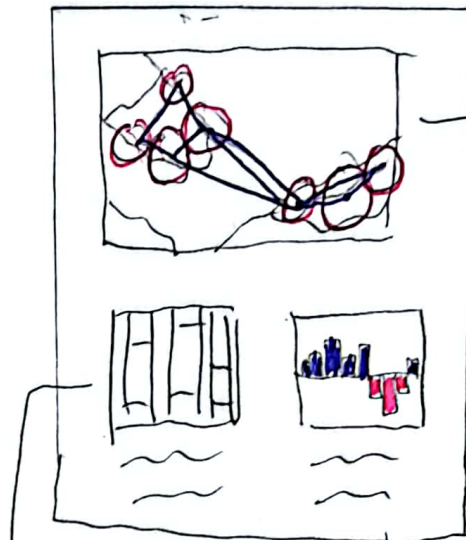


Annotation (bar)



percentage of each portion

Layout



Prop. symbol + Flight map

Prop. symbol  
↳ Number of passengers handled

Flight map  
↳ Number of passengers traveled through path (color) channel

Normalized stacked bar

- Percentage of passenger type

Bi-directional bar  
- Change in air travel over time

- Map focus

- Combined both maps

UI

Highlight line

- Hover over line to highlight it with a dark overlay

Discussion

+ Clear, linear narrative  
+ Follows natural viewing direction  
+ Combines two graphs into a complex and interesting visualisation

+ Highlighting makes it easier to see which path has been selected

+ Annotation on bar makes it easier to understand the magnitude of each type

- Map could have too many marks which could cause cognitive overload and make it hard to understand  
↳ Might also be hard to select specific elements

+ Visual centre focused on main elements (map, graphs)

Title: Sectional layout | Layout

Author: Dylan Wong  
Zhon Ning

Student ID: 32845480

Date: 25/09/2024

Sheet No. : 4

### Task: Initial Design 3

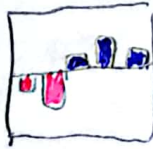
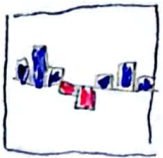
## Focus

Filter



- Show only connected airports and paths

## Time scale



20K 2023  
click and say

VI

## Filter

- Click to show selected airport  
+ connected flight paths and airports

## Time scale

- click and drag to change time range shown

## Discussion

- + Time scale allows for focus on specific years, reducing cognitive load

- + Visual centre on critical elements
- + Follows natural viewing direction
- + Minimal sight lines
- + Filter allows focus on specific airport routes, reducing cognitive load

- Layout may be too simple and uninteresting
- Maps may be too big to fit side-by-side and might require horizontal scrolling to fit

→ Prop. symbol

- Total passengers  
per airport

## Flight map

- Total passengers per flight path

B: -directional bar

- change in air travel over time

1) Isotype ↓

- Total planes handled
- Plane symbols

- graphs divided into 4 sections



Title: Air Travel in Malaysia

Layout

Author: Dylan Wong  
Zhun Ning

Student ID: 32845480

Date: 26/09/2024

Sheet No.: 5

Task: Realisation Design

Focus

Highlight

Near

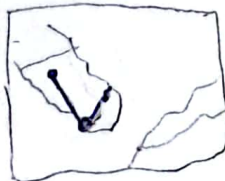
Line



Stroke



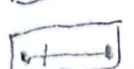
Filter



Time scale



- range selection

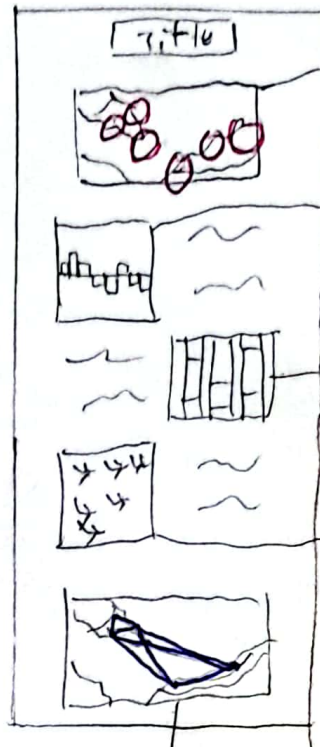


2023

Details

Requirements

- Vega-lite  
- Pure CSS



Prop. symbol (1)  
- Passengers by airport

Bi-directional bar (2)  
- change in air travel over time  
- Time scale function

Normalized stacked bar (3)  
- Percentage of passenger type

Isotype (4)  
- Planes handled by airport  
- Airplane symbols

Flight Map (5)  
- Passengers per flight path  
- Filter function

UI

Highlight (1, 5)

- Hover near/over marks to trigger highlighting

Filter (5)

- Click to filter by selected airport

Time scale (2)

- Click and drag to select your range

Algorithms

- Standard Vega-lite libraries

Estimated time to complete

30-50 hours