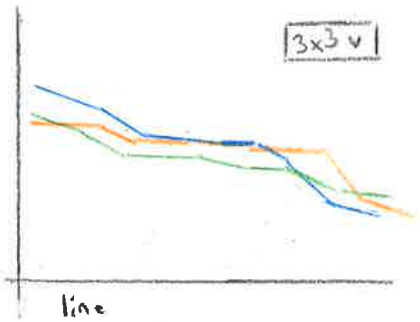
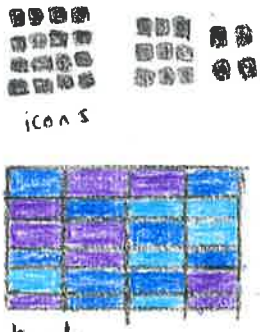
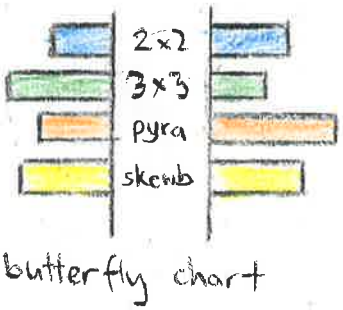
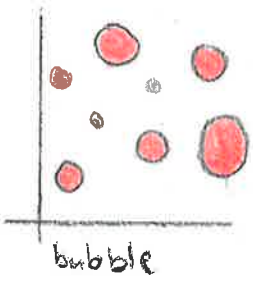
IDEAS

PERFORMANCE

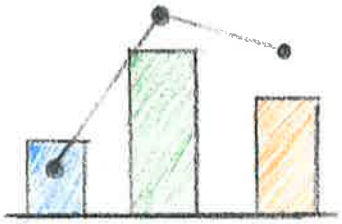


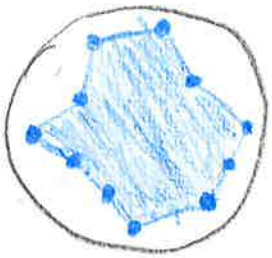


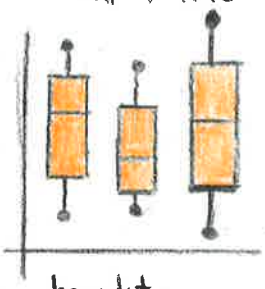


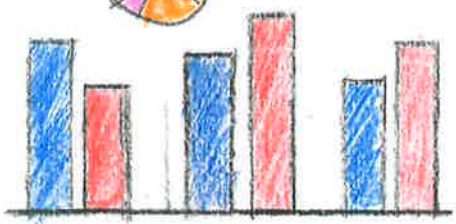


EVENT POPULARITY









FILTER

grouped idea can work well for comparison bar for simplicity - boxplot for detailed breakdown

line works well to show performance improvement over time. filter by event. Top 3 Malaysia vs top 3 world? use different colour

filter out: heat map, butterfly chart, pie, bar+line

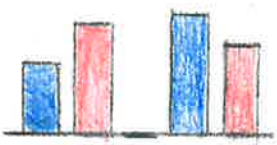
17 events. will it be too cluttered for radar diagram? pie chart?

CATEGORIZE

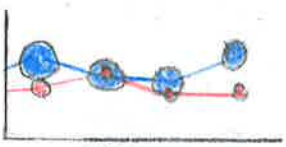
line chart grouped bar	single value per time period i.e. number of competitors or time to solve
radar diagram pie chart	view stats for multiple categories at once
bubble chart	2 dimensions at once
boxplot	distribution - top 100 solvers?

data: top average, distinct competitors (yearly)

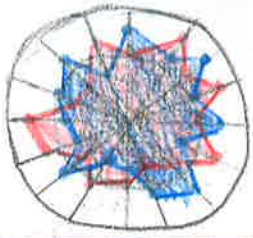
COMBINE & REFINE



+ animation
to show popularity over time



bubble + line
show performance & event popularity on same chart

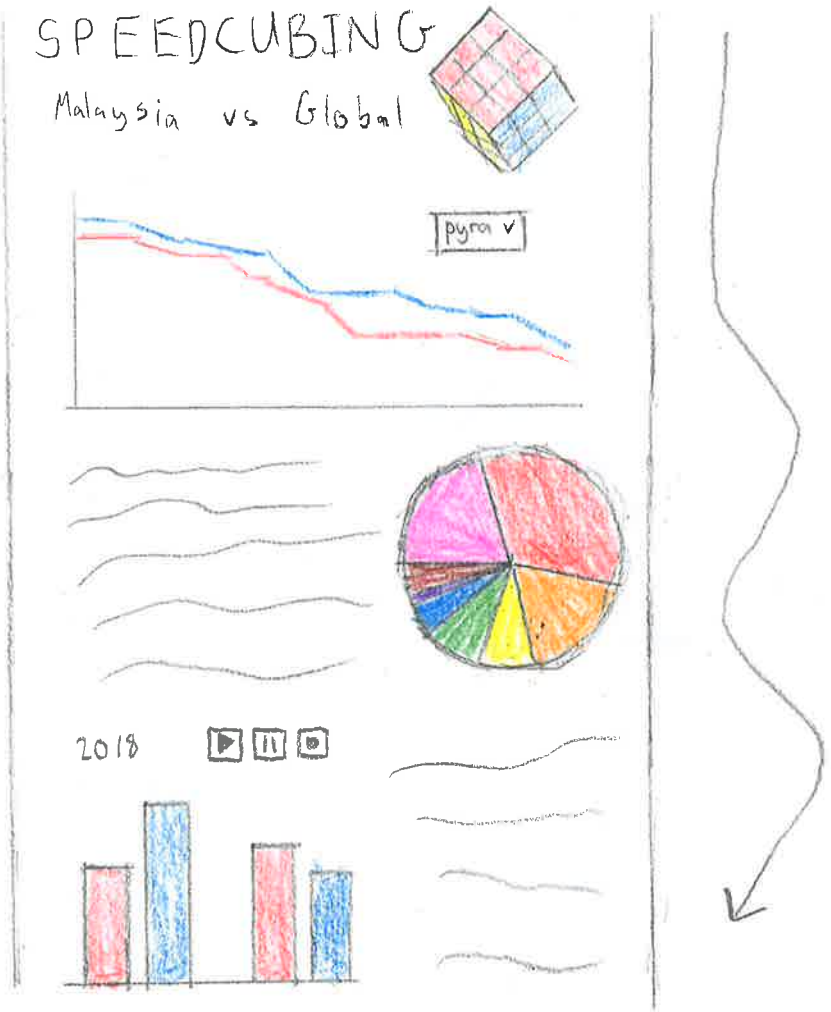


radar chart
alternate comparison form
shows multiple at once - very time

QUESTION

- Showing data by what period is more effective? year/month/day
- User controls for filter/animation?
- Does the visualization help users understand performance trends and event popularity effectively?

LAYOUT

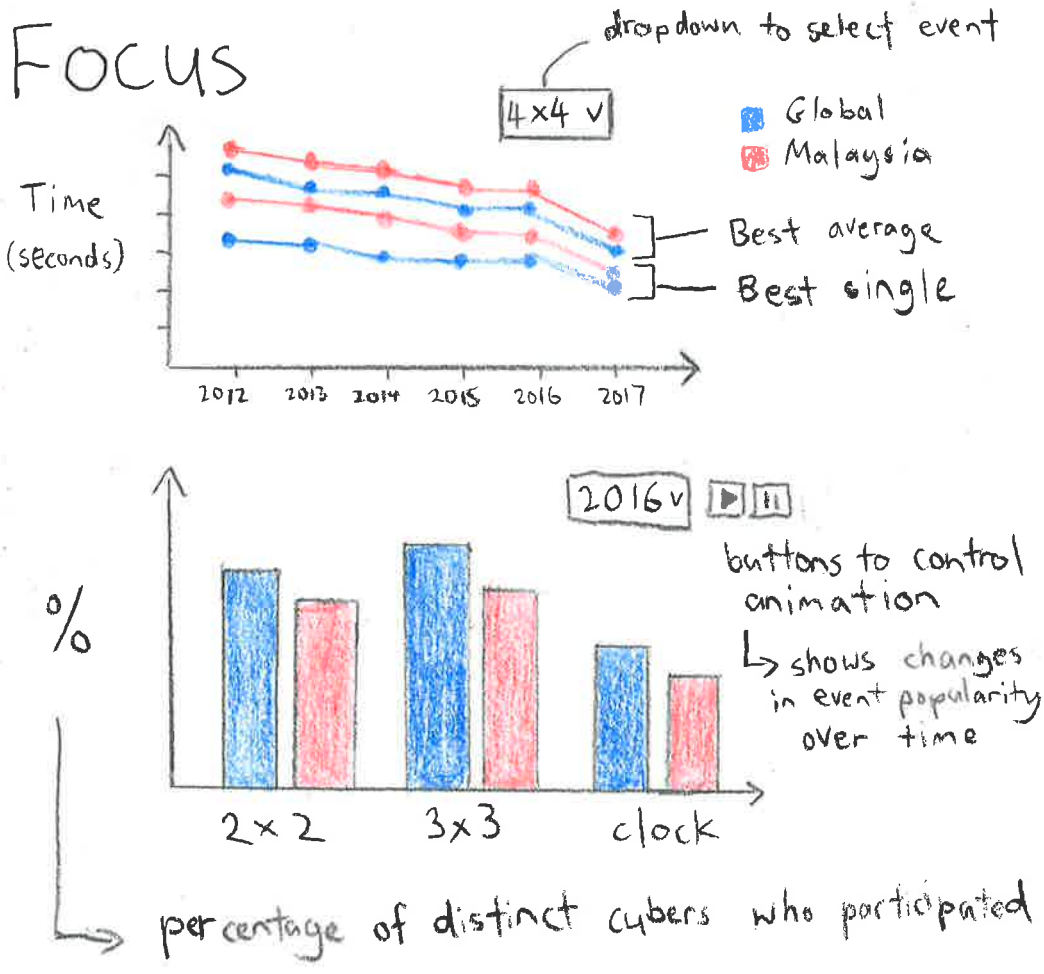


Title: Speedcubing: Malaysia vs Global
Author: Liangdi
Date: 19/08/2024
Sheet: 2
Task: Performance & Event popularity

OPERATIONS

- Detailed tooltips on hover
- Dropdown on line chart as data is only shown for 1 event at a time
- Dropdown for year on grouped bar chart
- Buttons to play and pause animation on grouped bar
- Hover highlighting: when user hovers on one chart, any related data in other charts light up

FOCUS



DISCUSSION

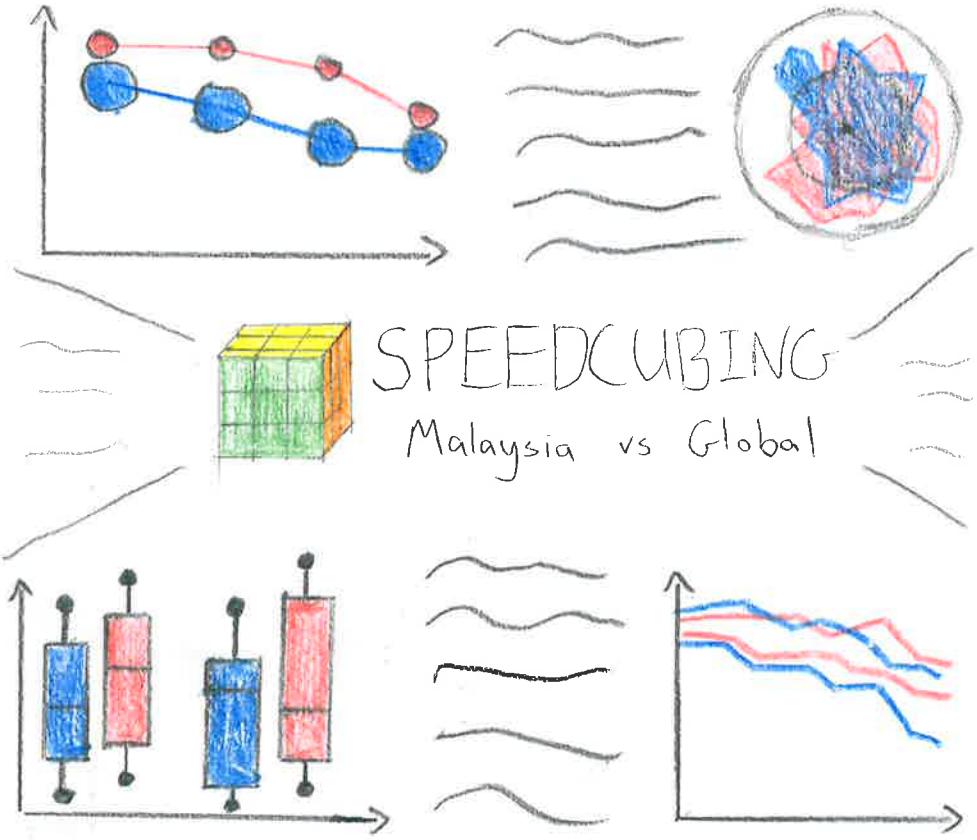
Positive:

- Comprehensive view, combines multiple visualizations
- Clear hierarchy and flow from top to bottom
- Engaging interactivity with dropdowns, buttons & animation

Negative:

- Space allocation, bar and pie chart may take up too much space and reduce focus on performance trends
- Too many interative elements may overwhelm novice users

LAYOUT

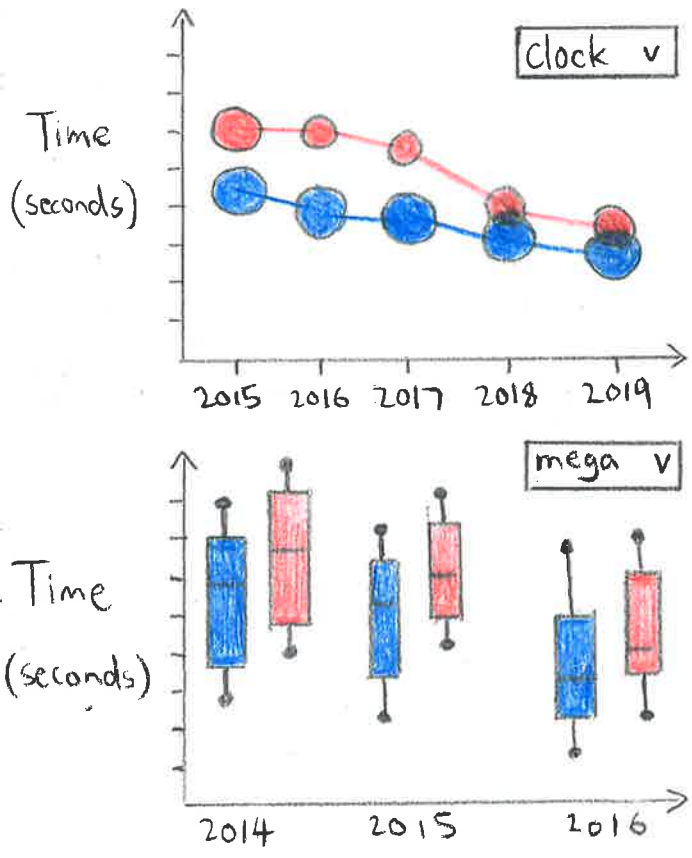


Sheet: 3
Name : Liangdi
Date : 19/08/2024
Title : Speedcubing : Malaysia vs Global
Task : Performance & Event Popularity

OPERATIONS

- Interactive dropdown: dropdown to switch between different events
- Hover Tooltips: detailed tooltips on hover showing specific performance metrics and event popularity
- Animated Transitions: Smooth transition of bubble sizes and line positions when switching dropdowns
- Linked Charts: Clicking on a data point highlights corresponding data in other charts

FOCUS



bubble + line chart

bubble size shows popularity of event

position shows performance for a specific year

line connects bubbles to emphasize change in vertical position (performance) over time

Global
Malaysia

grouped boxplot

boxplot shows distribution (perhaps top 100 cubers?)

grouped side-by-side helps with comparison

shows how event performance changes over time

DISCUSSIONS

Positive :

- Horizontal arrangement and central title create visually balanced design & draws attention
- Bubble + line chart effectively combines event popularity with performance, offering dual insights
- Grouped boxplot provides a clear view of performance spread over time, aiding in comparison

Negative :

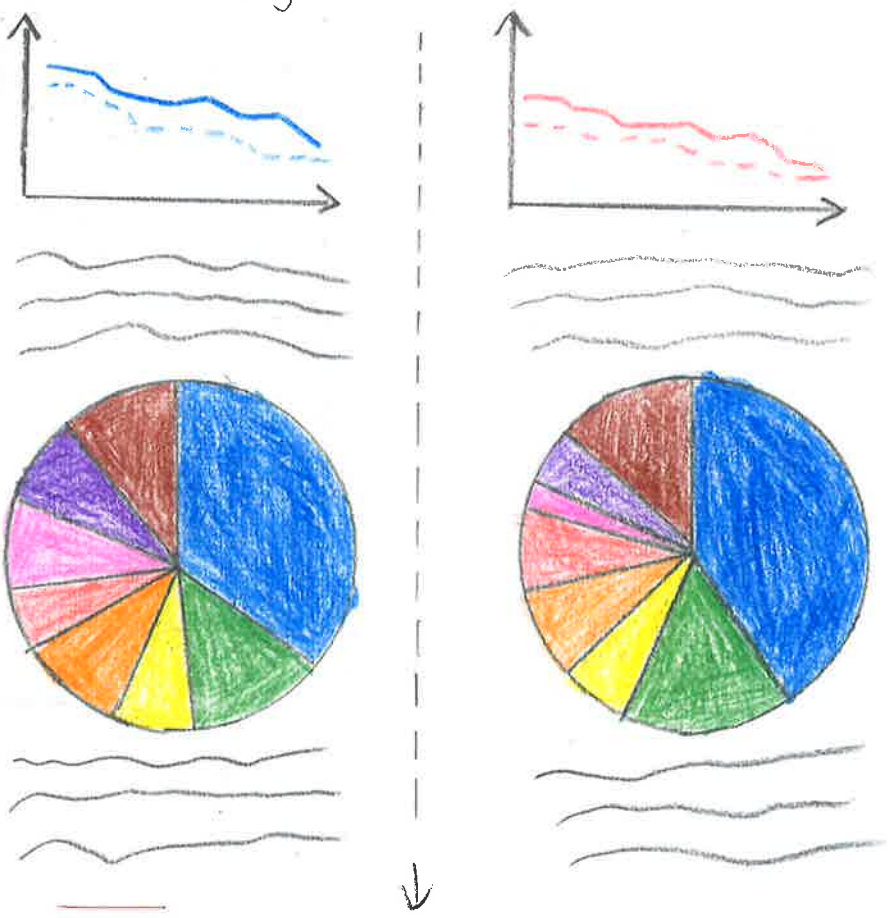
- Bubble size and line connection might lead to visual overlap
- Combination charts may be challenging to unfamiliar users

LAYOUT

U2 B' L' U' B2 U2 F' U' F'
L2 F2 B' R2 B D2 B R2 U2 R

SPEED CUBING

Malaysia vs Global



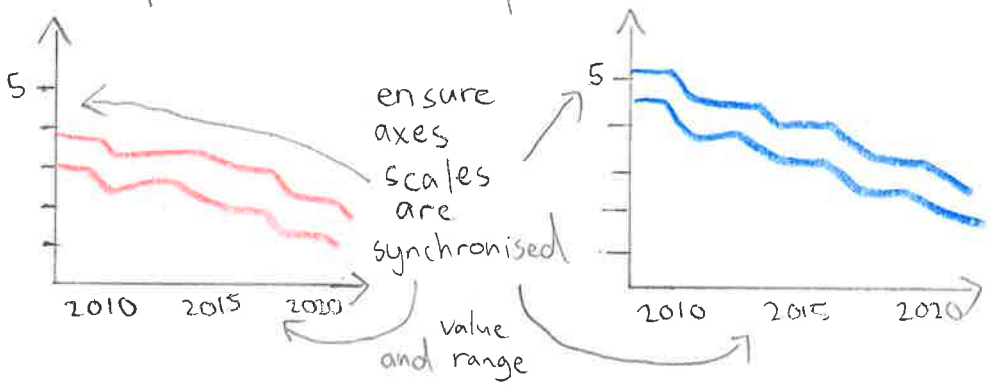
Sheet: 4
Name: Liangdi
Date: 19/08/2024
Title: Speedcubing: Malaysia vs Global
Task: Performance & Event Popularity

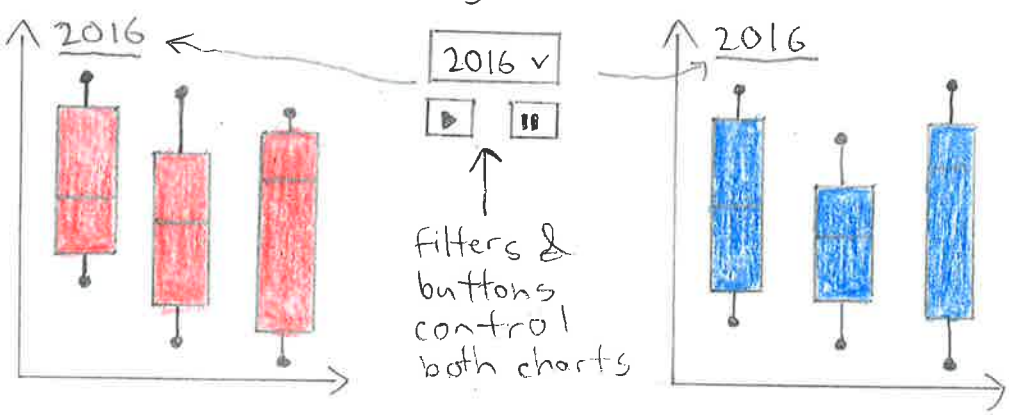
OPERATIONS

- Synchronized controls: filters and buttons control both sides simultaneously
- Linked Tooltips: hovering over one chart highlights the corresponding data on the other side
- Consistent Scales: Axes and value ranges are synchronized for accurate comparison
- Interactive Legend: clicking a legend item affects both column's charts

FOCUS

Comparison on separate charts





DISCUSSIONS

Positive:

- Direct Comparison – side-by-side layout enhances Malaysia vs. Global
- Symmetrical design aids in visual alignment and understanding
- Seperate charts prevent over-crowding, making interpretation easier

Negative:

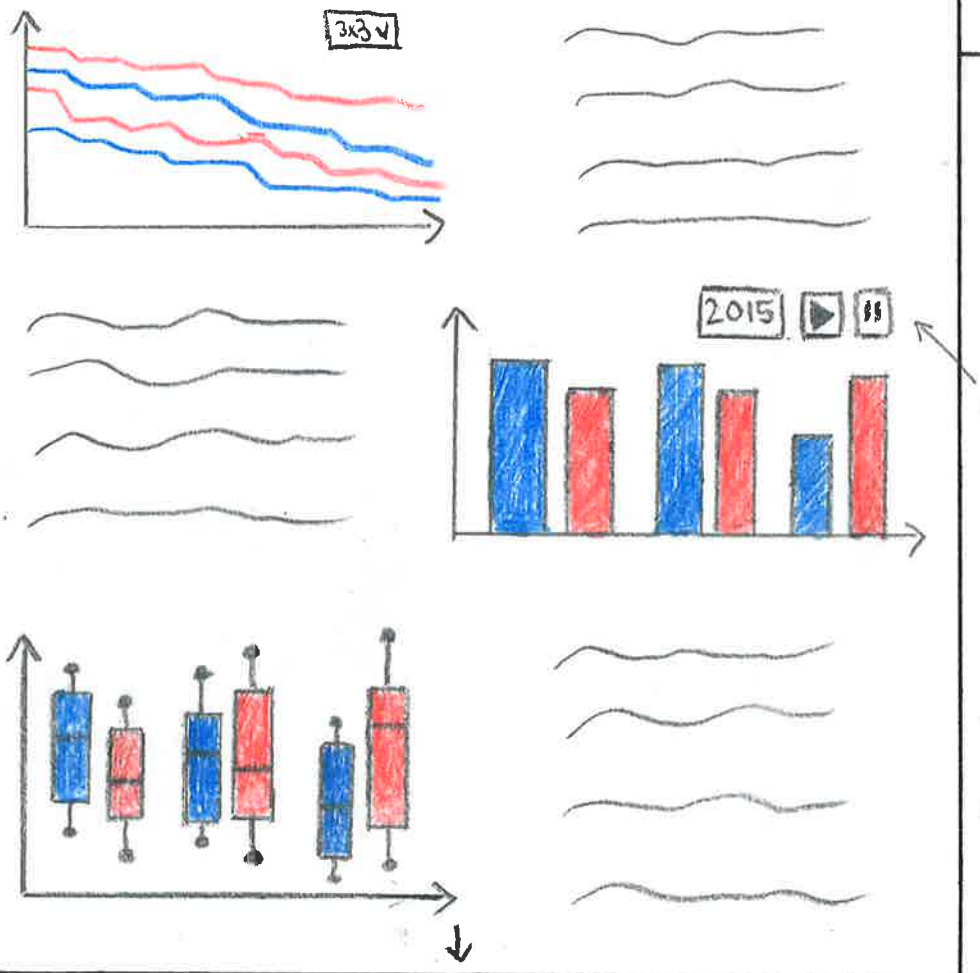
- Seperate charts might miss opportunity to show overlap in trends
- Information may be redundant rather than bring new insights
- Too many elements in one column might bring visual clutter

Sheet: 5
Name: Liangdi
Date: 19/08/2024
Title: Speedcubing: Malaysia vs Global
Task: Event performance & popularity

LAYOUT

SPEED CUBING

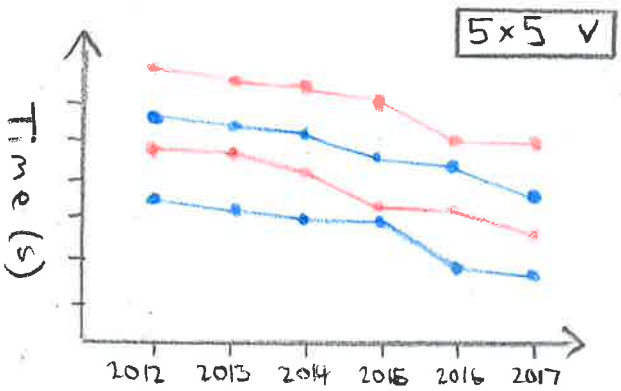
Malaysia vs Global



OPERATIONS

- Interactive Dropdowns: allows users to select different events or years, dynamically updating the charts.
- Animation Controls: users can play and pause, showing evolution of event popularity or performance over time.
- Hover Tooltips: displays detailed information providing additional insights
- Linked Charts: clicking a data point in 1 chart highlights corresponding data, revealing relationships & correlations

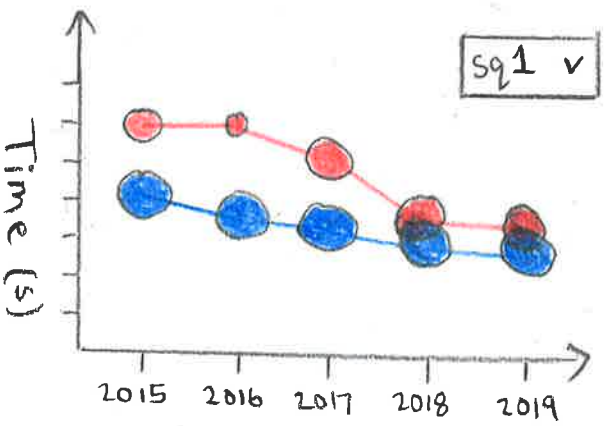
FOCUS



Comparison line chart

- primary visualization technique
- compares Malaysia and global speedcubing performance
- allows users to visually track performance trends over time with clear distinction using colour-coded lines for both average & single records

Malaysia
Global



Bubble + line chart

- bubble size = event popularity
- position = performance
- connective line highlights changes over time
- allows users to understand how event popularity correlates with performance over time

DETAILS

- Algorithms: SQL, joins, relational algebra
- Dependencies: Computer, Tableau, R studio, WCA data
- Estimations: cost - free (use publicly available software and data set) approximately 16 hours of developer effort