1. IDEAS

①

⑥ interactively spin

⑦ INDIA / ENGLAND / USA / MEXICO

②

⑧ INDIA BRASIL / C / USA AUS / CHINA
2022

⑨ India Aus Usa Eng — $1 $2 $3 $4
2011 2015 2022

③   choropleth

⑩ weight — india brazi china aus usa
2022

④

⑪ 2011 / 2012 / 2013 / 2014 / 2015 / ...
(aus china bar charts)

⑤

⑫ 2011 Human / Animal → 2022 Human / Animal

⑬ 2011 / 2015 / 2022 — Human / Animal

⑭ exports
2011 2017 2022

⑯ Animal Human
2011 2012 2013 2014 2015

⑰ Human / Animal
2011 ... 2022

⑮ exports — Human hair / animal hair
2011 2017 2022

⑱ Animal / Human price per kg

⑲ India Aus China Usa ...
2011 2022

⑳ Human / Animal — Human / Animal

㉑ price per kg ■ Human ■ Animal
2011 2017 2022

2. FILTER

2022 Exports

2022 Exports

India's Exports

India's hair market:
2011 / 2012 / 2013 / 2014 / 2015 / 2016
■ Animal ■ Human

price per kg over time
Aus / India / Usa ...
2011 2012 2013
$4/kg / $3/kg / $2/kg / $1/kg

Weight exports over time
Aus / India / Usa ...
2011 2012 2013

3. CATAGORISE

MAP IDIOMS

2022 exporters of hair (globally)	India's trade of hair in 2022
→ 2022 data only	→ flow map
→ data for each country	→ 2022 data only
→ India has most	→ lines from india to different countries

DATA OVER TIME

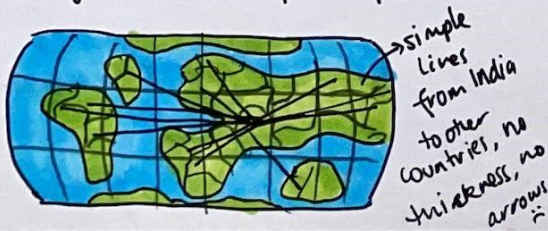| ① exports	② price per kg	③ India's human vs animal hair exports
→ different countries weight qnty	→ show how India has cheapest hair	→ 2 graphs, 1 for India, 1 to compare

4. COMBINE & REFINE

* Vega Lite can only do ● proportional symbol maps ∴

(grid lines & country borders in grey

* Vega Lite can't do flow maps ∴

→ simple lines from India to other countries, no thickness, no arrows ∴

• Vega Lite can't do waffle charts ∴

stream graph
— Human hair India
— Animal hair India
— Human hair *otr country*
— Animal Hair *other country*
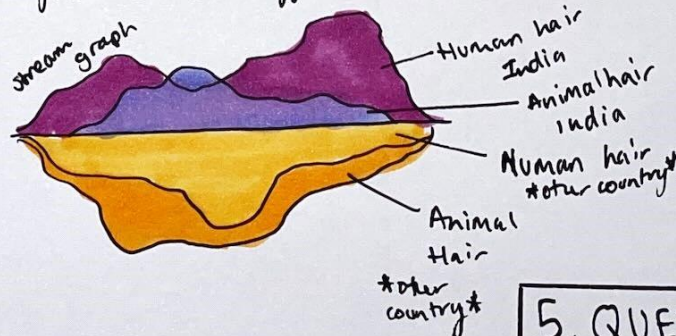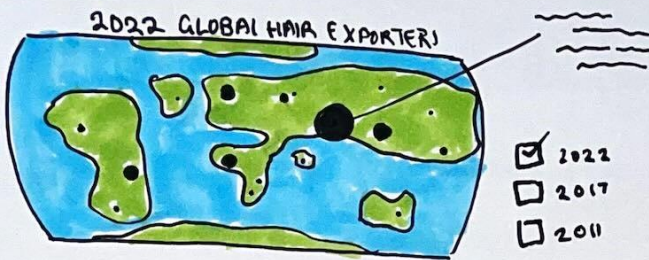
5. QUESTIONS

1) does Vega Lite support these idioms?

2) do the chosen graphs do a good enough job of displaying the data?

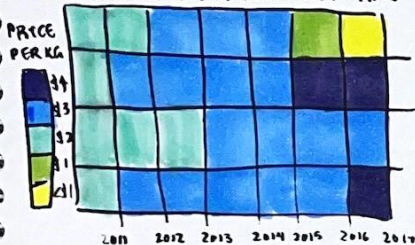3) Are the idioms suitably alternative to be interesting?

LAYOUT:

THE HUMAN HAIR TRADE
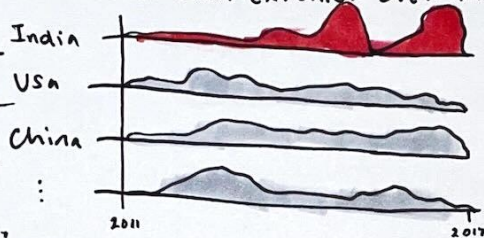
2022 GLOBAL HAIR EXPORTERS
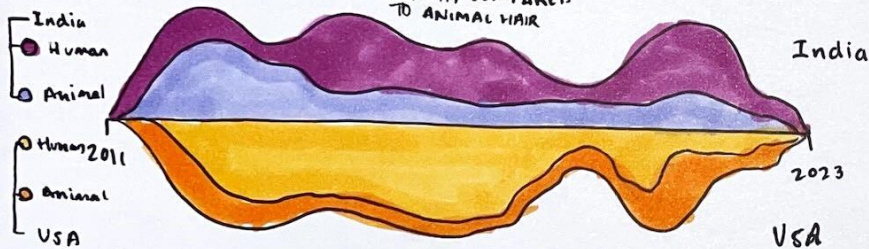

- ☑ 2022
- ☐ 2017
- ☐ 2011

INDIA'S TRADE PARTNERS

PRICE PER KG OVER TIME

PRICE PER KG

$4
$3
$2
$1
<$1

2011 2012 2013 2014 2015 2016 2017

QUANTITY EXPORTED OVERTIME

India
Usa
China
⋮

2011 — 2017

POPULARITY COMPARED TO ANIMAL HAIR

India
- ● Human
- ● Animal

- ● Human 2011
- ● Animal

USA

India

2023

USA

OPERATIONS:

①

- ☑ 2022
- ☐ ☐ 2017
- ☐ ☐ ☐ 2011

→ navigate between different year's data sets.

②

USA

Clicking on one country will bring up it's data set.

③

switch the country data displayed at bottom bit of stream.

AUS

vs

China
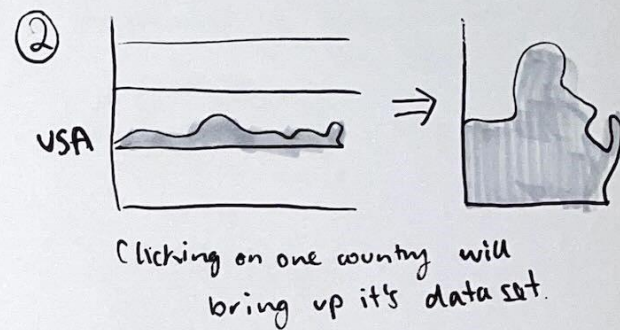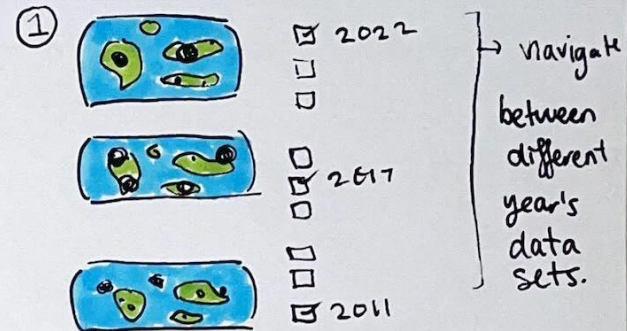
FOCUS:

The Storyline:
- → beginning: exstablishes India as outlier using proportional symbol map
- → middle: discusses reasons why India might be an outlier (showing cheap price with heat map & increased commonality with timeline where India stands out)
- → end: discuss market in India, and compare to animal hair market

TOOLS:

Tooltip Annotation on proportional symbol map
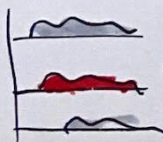
 → use of colour to highlight India

DISCUSSION:

Pros:
- good story line/narrative structure is well communicated by the layout
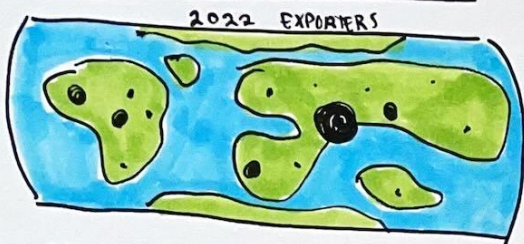- utilises white space well
- doesn't feel clustered or gross

Cons
- similar layout to Data Visualisation 1 submission
- not sure if Vegalite can do te interactivity featues

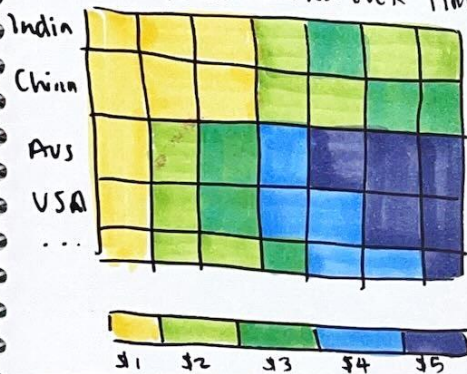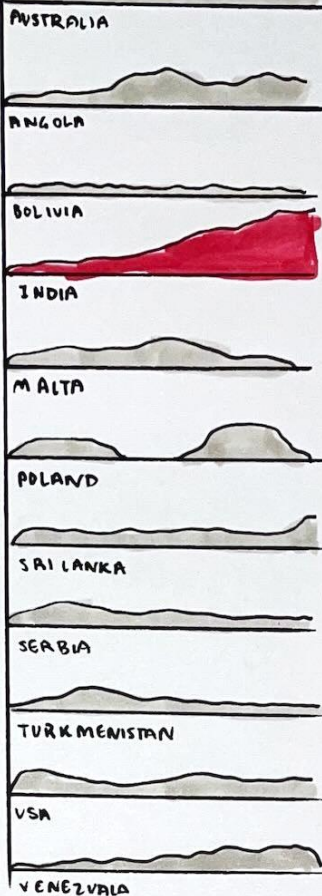# LAYOUT:

THE HUMAN HAIR TRADE

2022 EXPORTERS

INDIA'S TRADE 2022

HUMAN VS ANIMAL HAIR MARKET

India

2011 — 2023

USA

☑ USA ☐ AUS ☐ CHINA ... ..

PRICE PER KG OVER TIME BY COUNTRY

India
China
Aus
USA
...

$1 $2 $3 $4 $5

EXPORTS OVER TIME

AUSTRALIA

ANGOLA

BOLIVIA

INDIA

MALTA

POLAND

SRI LANKA

SERBIA

TURKMENISTAN

USA

VENEZUELA

INTERACTIVITY/OPERATIONS:

- Changing years for the proportional symbol map

2022 ⇒ 2021 ⇒ 2020

- Choose which country to compare in the stream chart

USA ☑

⇕

AUS ☑

⋮
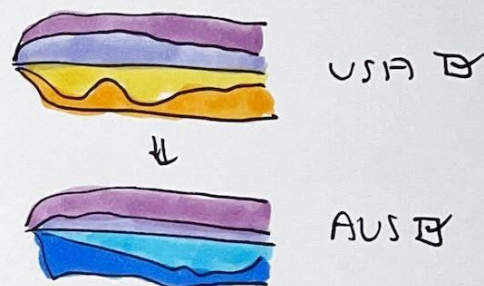
FOUE FOCUS:

- 2 column layout utilizes the length of the small multiples chart

→ India highted in red as the focus
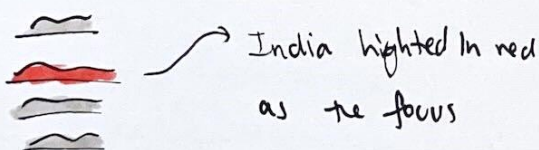
- Map at the top left in the main diagonal sight line
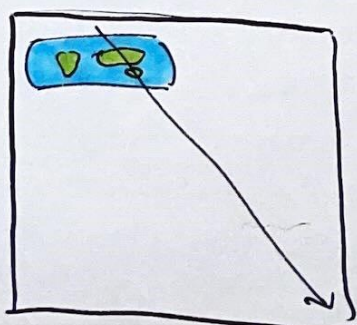
DISCUSSION:

Pros:
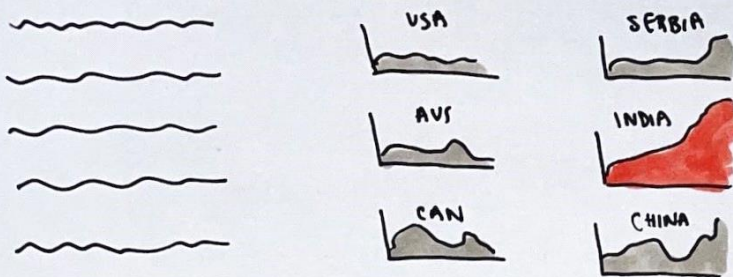- utilizes the length of the small multiples charts
- easy, simple text blocks

Cons:
- the maps feel slightly small and squashed.
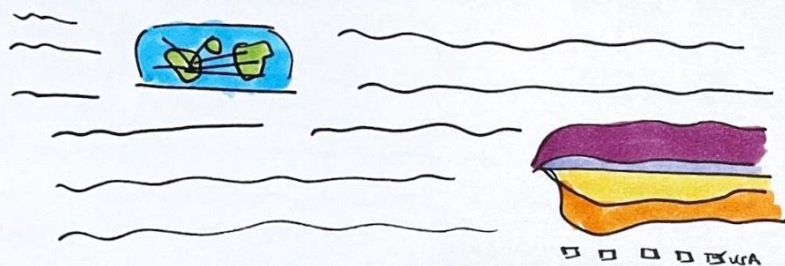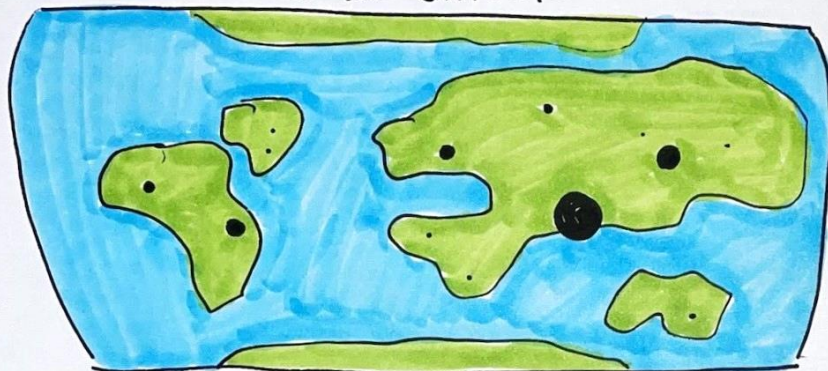- the 2 columns are not of equal size.

LAYOUT:

WORLD HAIR TRADE

USA AVS CAN SERBIA INDIA CHINA

2022 EXPORTS

PRICE PER KILOGRAM OVERTIME
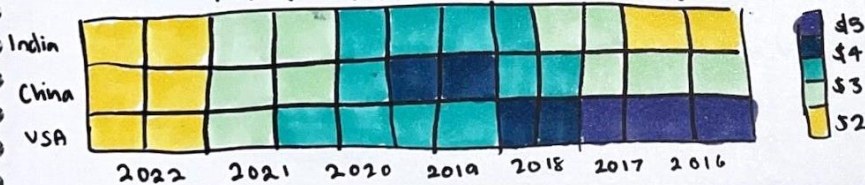
India
China
USA

2022   2021   2020   2019   2018   2017   2016

$5
$4
$3
$2

OPERATIONS:

- clicking on one of the small multiples brings up a graph of that multiple larger e.g:

USER CLICKS

can now access tooltips
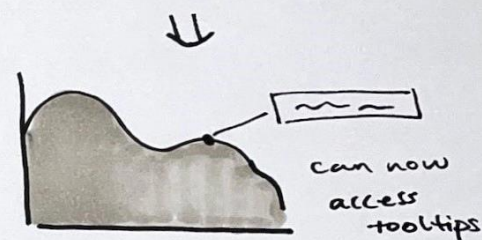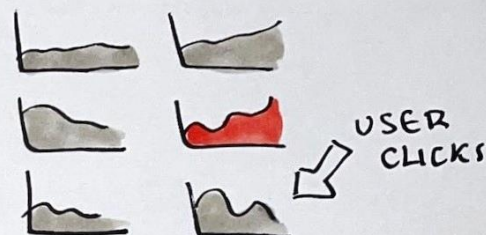
- swap out different countries for comparison in stream graph

☑ USA ☐ AUS   ☐ USA ☑ AUS
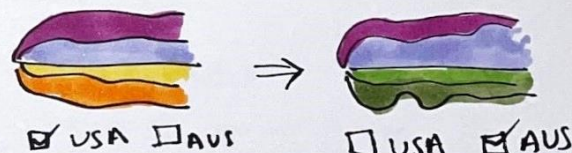
FOCUS:

- ~~The Map Proportional Symbol map is the main focus of the visualisation~~

- The proportional symbol map is the main focus of the visualisation
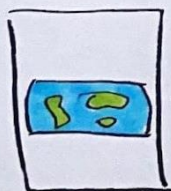
→ central placement draws focus
BUT:
- the portrait page orientation may mean the user has to scroll down to see it properly
- because it's wider than it is long, it's size is bound by the page width

DISCUSSION:

Pros:
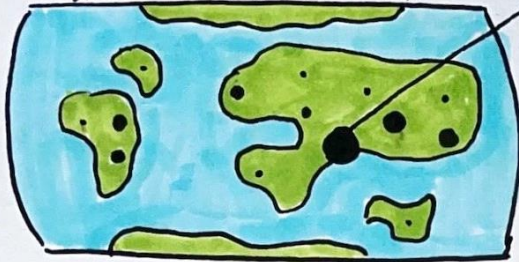- The map takes importance in the middle
- columns are equal

Cons:
- The main diagonal sight line starts with ↖ text. Not ideal
- Not many interactions
- These drawbacks from the focus

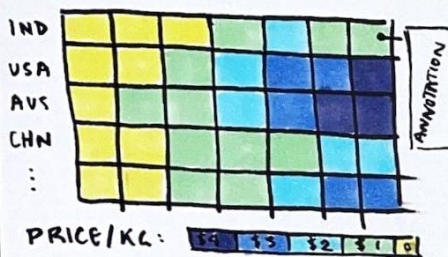# LAYOUT:

THE HUMAN HAIR TRADE

2022 GLOBAL EXPORTERS

ANNOTA-TION
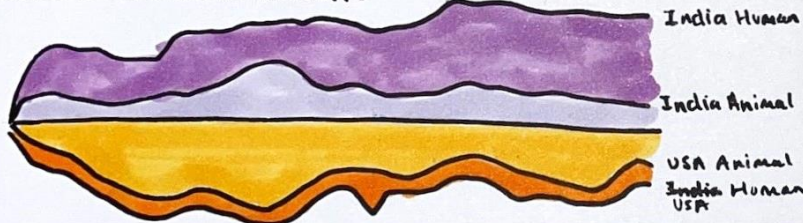
- ☑ 2022
- ☐ 2017
- ☐ 2011

2022 INDIA

PRICE PER KG OVER TIME

IND
USA
AVS
CHN
:

ANNOTATION

PRICE/KG: $4 $3 $2 $1 0

AVS USA CAN
CHN IND SRI
GRE GER BRT

ANIMAL VS HUMAN EXPORTS

India Human
India Animal
USA Animal
India Human
USA

FOCUS:

- Takes the good story-line from sheet 2

  START: the proportional symbol map, main focus and establishes India as an outlier

  MIDDLE: focus on growth over time and price over time to suggest a reason why India is outlier

  END: a peculiarity within India's hair market, and a pretty graph that uses the width well

- Takes the small multiple variation from sheet 4 to allow operation.
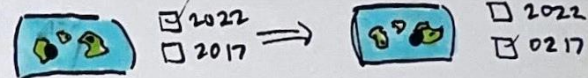
OLD SMALL MULTIPLE

VS

NEW SMALL MULTIPLE

OPERATIONS:

- ☑ 2022
- ☐ 2017

⟹

- ☐ 2022
- ☑ 0217

↳ USER can select year they want to view on proportional symbol map

USA ← VSER CLICKS

⟹

USA
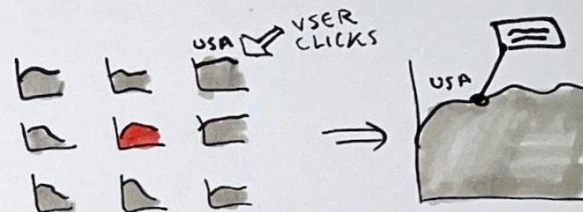
↳ vser can click on a small multiple to see it enlarged and access tooltips

DETAILS:

DEPENDENCIES:

- unsure if vega lite is able to do the first operation above ʌʌʌ
- quite advanced operations in general
- ability to support tooltips & annotations in a way that doesn't interfere with other graphs

TIME TO BUILD:

- Homework wk 9 & wk 10 will have already helped me build some

MAP 1: 3hrs	STREAM GRAPH: 3hrs
MAP 2: 3hrs	TEXT: 2hrs
HEATMAP: 3hrs	TOOLTIPS/ANNOTATIONS: 2h
SMALL MULTIPLE: 3hrs	OPERATIONS: 2hrs
	PERFECTING: 1hr
	TOTAL TIME: 22 hrs

ALGORITHMS:

- simple algorithm to calculate the price per kg and put into a dataset with

	2022	2021	---
country 1	$/kg	$/kg	$/kg
country 2	$/kg	$/kg	$/kg
:	$/kg	$/kg	$/kg