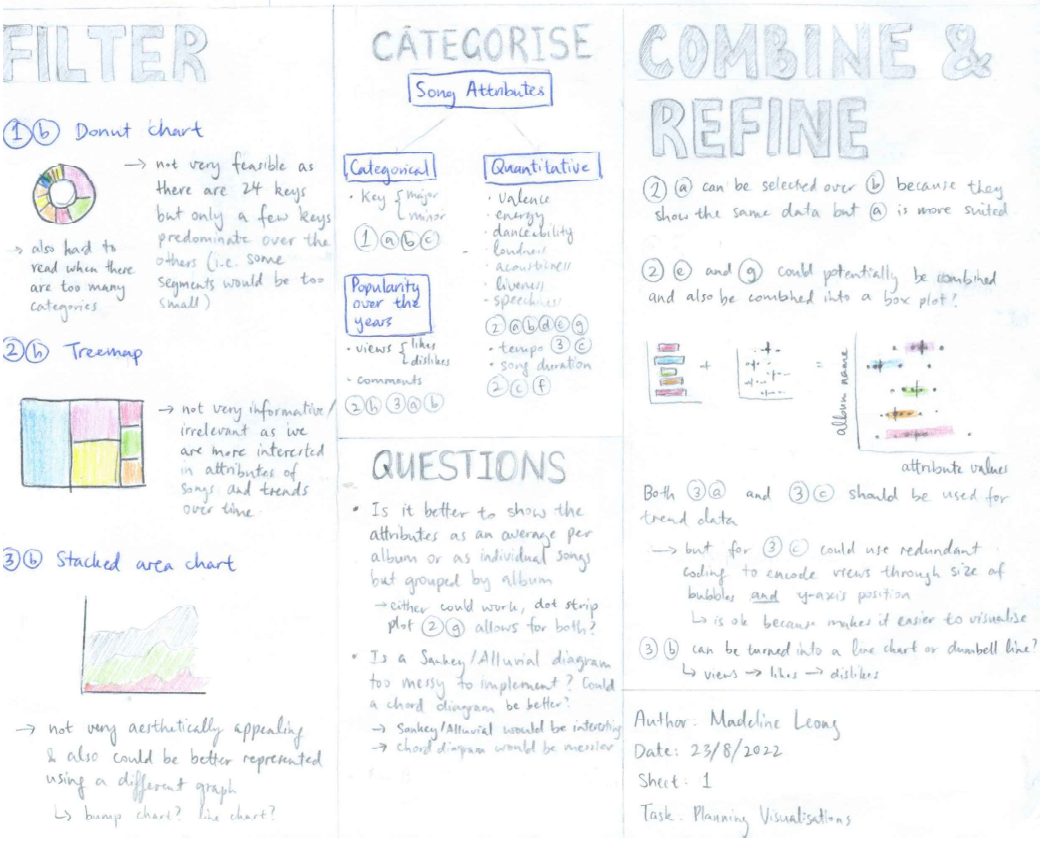
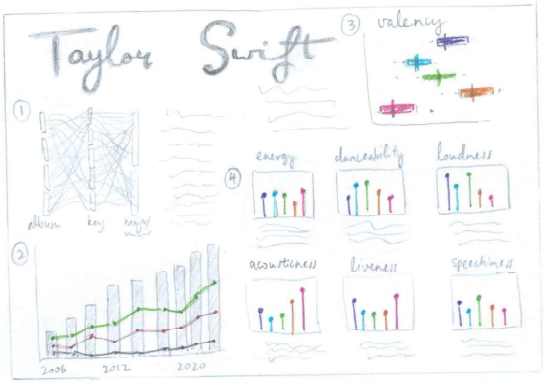
Appendix


IDEAS
1 Categorical Song Attributes
a Alluvial diagram / Sankey diagram
album
key
major/minor
b Donut chart
Song key
c Stacked bar chart
no. of songs
album name
major
minor
2 Quantitative Song Attributes
a Lollipop Chart
personalise marks to album covers?
song attribute
album name
OR
ATTRIBUTES
• valence
• energy
• danceability
• loudness
• acousticness
• liveness
• speechiness
b Bar chart
average of attribute
album name
c Scatterplot
tempo
song duration
d Radar/spider chart
chart
speechiness
loudness
valence
danceability
acousticness
e Line chart
colour = attribute
OR
y-axis = views
attribute values
Year
Graphs a to e can be made into
small multiples
e Column range
album name
attribute
f Histogram
tempo
g Dot strip plot
album name
attribute
a Bubble chart
size = like count
colour = album
view count
Years
b Stacked area chart
no vote
likes
dislikes
view count
Years
h Treemap
album 1
album 2
album 3
x by number of views


FILTER
1 b Donut chart
→ not very feasible as there are 24 keys but only a few keys predominate over the others (i.e. some segments would be too small)
→ also hard to read when there are too many categories
2 h Treemap
→ not very informative / irrelevant as we are more interested in attributes of songs and trends over time
3 b Stacked area chart
→ not very aesthetically appealing & also could be better represented using a different graph
↳ bump chart? line chart?
CATEGORISE
Song Attributes
Categorical
• Key { major / minor
1 a b c
Popularity over the years
• views { likes / dislikes
• comments
2 h 3 a b
Quantitative
• valence
• energy
• danceability
• loudness
• acousticness
• liveness
• speechiness
2 a b d e g
• tempo 3 c
• song duration
2 c f
QUESTIONS
• Is it better to show the attributes as an average per album or as individual songs but grouped by album
→ either could work, dot strip plot 2 g allows for both?
• Is a Sankey / Alluvial diagram too messy to implement? Could a chord diagram be better?
→ Sankey / Alluvial would be interesting
→ chord diagram would be messier
COMBINE & REFINE
2 a can be selected over b because they show the same data but a is more suited
2 e and g could potentially be combined and also be combined into a box plot?
album name
attribute values
Both 3 a and 3 c should be used for trend data
→ but for 3 c could use redundant coding to encode views through size of bubbles and y-axis position
↳ is ok because makes it easier to visualise
3 b can be turned into a line chart or dumbell line?
↳ views → likes → dislikes
Author: Madeline Leong
Date: 23/8/2022
Sheet: 1
Task: Planning Visualisations

Title: Partitioned Poster
Author: Madeline Leong
Date: 23/8/2022
Sheet: 2
Task: Design an infographic poster

LAYOUT



1 Sankey/alluvial diagram
- song key & major/minor
- can be enlarged to emphasise it more
- no annotations but text paragraph to explain

2 Bar chart with line { alternative = stacked bar with 1 line }
- x-axis = years, bars = views
- should use annotations to explain
- line 1 = no. of likes
- line 2 = no. of dislikes
- line 3 (optional) = no. of comments

3 Dot strip/box plot
- valency = most important attribute
- paragraph explaining music evolution over time

4 Small multiples of lollipop charts
- x-axis = album
- y-axis = average value
- little paragraph underneath

Extra notes
- should shrink 2 and enlarge 4
- 4 can have annotations instead of paragraphs

OPERATION

Potentially have a bar at the top to filter by album

E.g. [album 1] [album 2] [album 3] etc.
click to filter

or could use a drop-down menu instead above each graph

E.g. - select - ▼
album 1
album 2
album 3
album 4

→ could also potentially filter by song on Sankey diagram

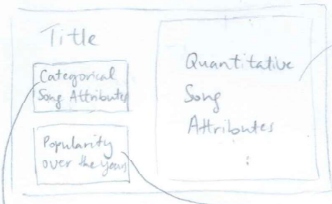
- select - ▼
song 1
song 2
song 3

Tooltips
→ need album name, year, song name (if possible) relevant value etc.
→ hover mouse over the data point, line/bar etc. for tooltip to show
→ clicking the point could also potentially filter the data?

FOCUS

→ No main focus, all graphs are important
→ But some graphs are larger to emphasise their features / allows clearer analysis or scrutinisation

Poster arrangement →



→ for the "lollipops" use personalised icons with the album cover image

→ most eye-catching feature
→ colour-code by album to match the rest of the visualisations
→ could add time-signature?

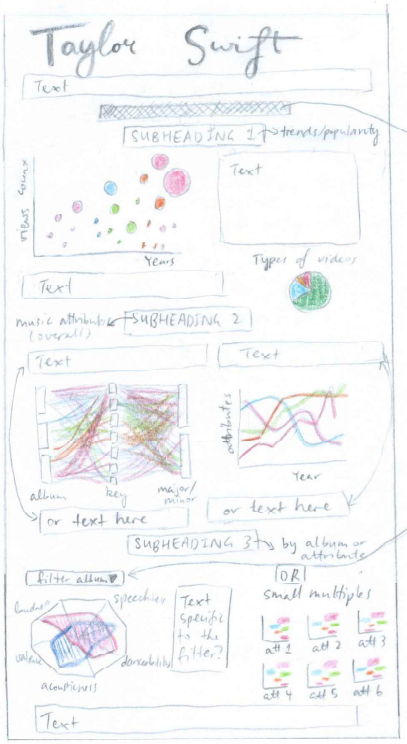
→ choose colour scheme that isn't confused with the rest of the poster
→ could get rid of axis and put numbers on top?

DISCUSSION

Advantages
- well segmented into clear sections
- allows implementation of more complex visualisations & can highlight these
- reader/viewer interaction is easy to implement & easy for user to operate
- possible to switch up graphs/charts without greatly affecting layout or bal

Disadvantages
- might be information overload
- no main focus can make it look a bit disjointed → more like sections meshed together rather than a story
- lollipop charts may be too simple
- Sankey/alluvial chart may be difficult to

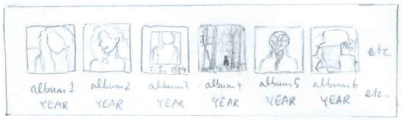
LAYOUT



Author: Madeline Leong
Date: 23/8/2022
Sheet: 3
Task: Design a scrollable story-like poster

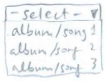
OPERATION

Bar at the top to filter by album

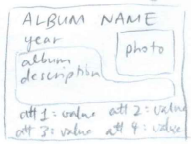


→ not sure where is the best position to put it...
→ click to filter, graphs change accordingly

Also filter by album using drop-down menu (if bar at top is too far up to scroll to)



After filtering, graph changes and text could change too?
E.g.



Tooltips & annotations
→ album name, year, values etc
→ annotate key events/interesting features, e.g. "Taylor's Version" albums and story behind it

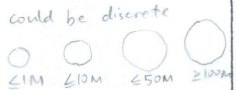
FOCUS

3 focuses = one for each section of story

) Bubble chart
→ x-axis = years, y-axis = no. of views
→ size of bubble = no. of likes OR no. of likes divided by no. of views (i.e. like-view ratio)
→ colour = album

Could be continuous

or could be discrete



) Sankey / alluvial diagram
→ each line is one song
→ coloured by album?
→ key of song

) Radar plot & customised accompanying text
→ radar elements, one corner for each attribute
→ initially shows average of all songs
→ filter by album shows average value for each attribute, specific to album

DISCUSSION

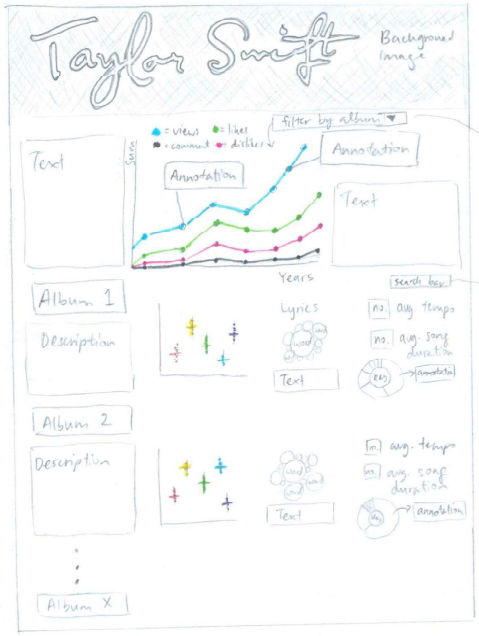
Advantages

- creates a clear story with sections well defined
  ↳ cohesive and gradually gets specific
- allows for wider range of visualisations to be used
  ↳ eye-catching and interesting
- good user interaction

Disadvantages

- Too many visualisations → can confuse the user/viewer
- Layout needs to be well thought-out (i.e. sight lines, white space) otherwise can be a bit messy
- Spacing not good → small multiples?
- Filtering is difficult to create & time-consuming

LAYOUT



Title: Scrolly-telling #2
Author: Madeline Leong
Date: 24/8/22
Sheet: 4
Task: Design a scrollable page telling a narrati

OPERATION

→ Filter by album
→ either click on icon or drop-dow
→ the line graph changes but the rest o the page stays the same.

search bar
→ user can type in the name of the song/album they are interested in
→ can take the user straight to the relevant section

Tooltips
→ Hover over line graph

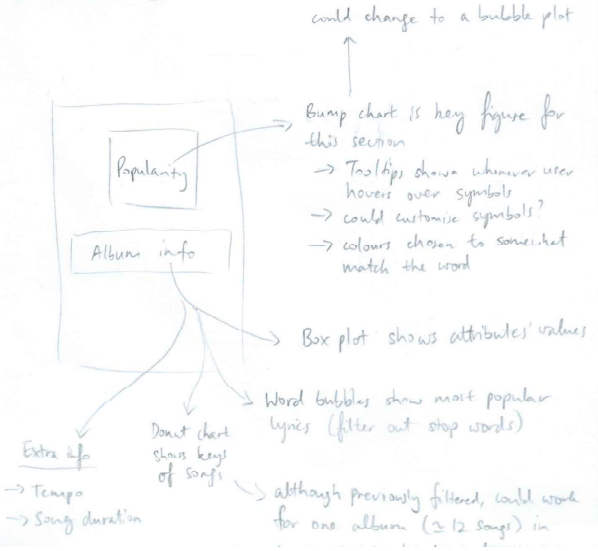
Year	XXXX
views	XXX
likes	XXX
dislikes	XXX
comments	XXX

→ Hover over boxplot/lyrics

Song name
attribute 1
attribute 2
attribute 3
attribute X

word frequency

FOCUS



DISCUSSION

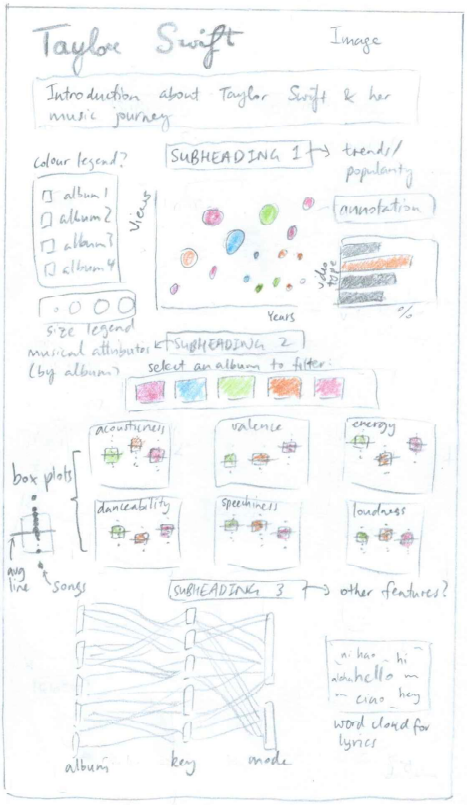
Advantages
→ Easy to follow along and gives a clear timeline of her music evolution
→ Well-structured and aesthetically appealing
→ Some user interaction (filtering, tooltips e

Disadvantages
→ word/lyric bubbles may be hard to create
→ would be hard to compare attributes of albums since graphs are separated
→ too long to scroll (she has 11 albums
↳ user may lose interest
↳ takes a long time to format
→ search bar probably not feasible

Title: final Design Sheet
Author: Madeline Leong
Date: 24/8/2022
Sheet: 5
Task: Design the final layout

LAYOUT

Based off of sheet 2:



OPERATION

Select / filter by album

→ two potential designated filtering tools

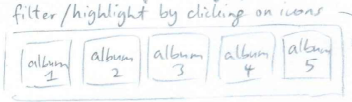
↳ bar with album pictures & names that are clickable

to filter

↳ or drop-down filter

→ can also filter by clicking on specific parts of the graph

→ filter / highlight by clicking on icons



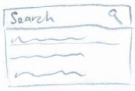
↳ link across all charts

Tooltips

- use for all graphs
- include colour?
  - ↳ blue = views
  - ↳ green = likes
  - ↳ red = dislikes

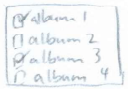
Eg.

Search bars



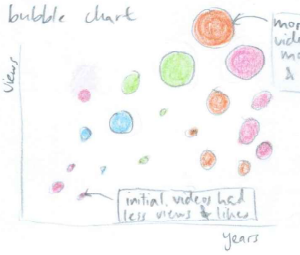
Song or album title

multi-select filter



FOCUS

- No main chart focus, all graphs are equally important
- Main focus is story-telling & tying all idioms/ paragraphs together
- Emphasis on annotations to guide the user
- Eg. bubble chart



Consistent colours in text

Eg.

Album 4 released in 2021 lorem ipsum dolor sit amet consectetur Album 5

DETAILS

- Dependencies: Tableau Public servers & R for data cleaning
  - ↳ Tableau slow at saving
- Estimated time & effort: at least 3 days to build all idioms & 3 days for final design/ layout
  - ↳ 1 day for Sankey
  - ↳ 1 day for bubble / bar / word cloud
  - ↳ 1 day for 6 x boxplots
  - ↳ also need time for research ~ 1 day
- Specific requirements: larger visualisation for more clarity on smaller screens? Need decent processing for Tableau too.