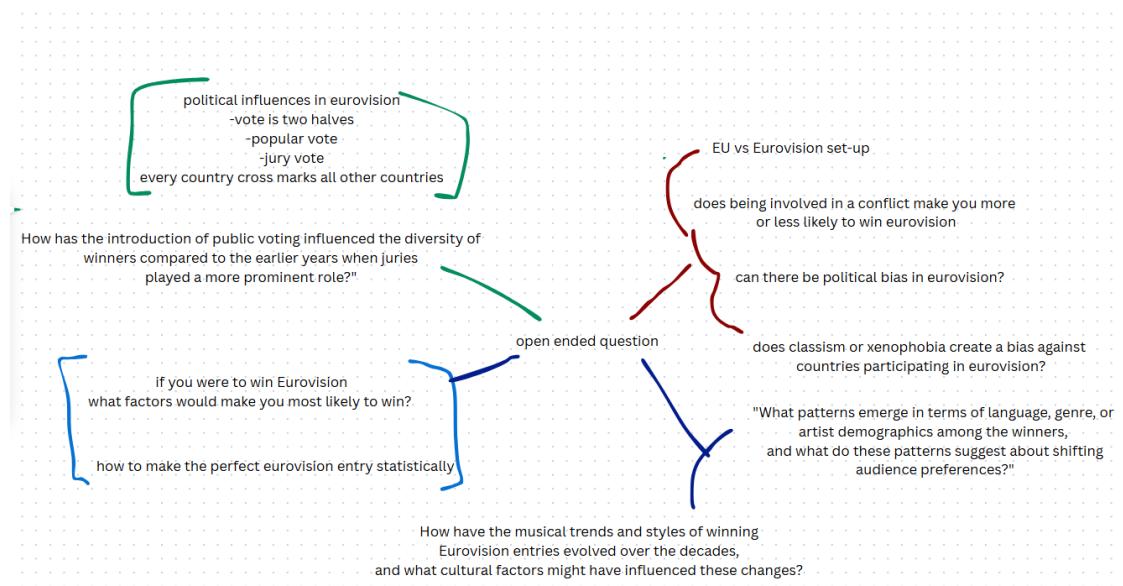


Ideation Process: Group 29; CS5044, P2

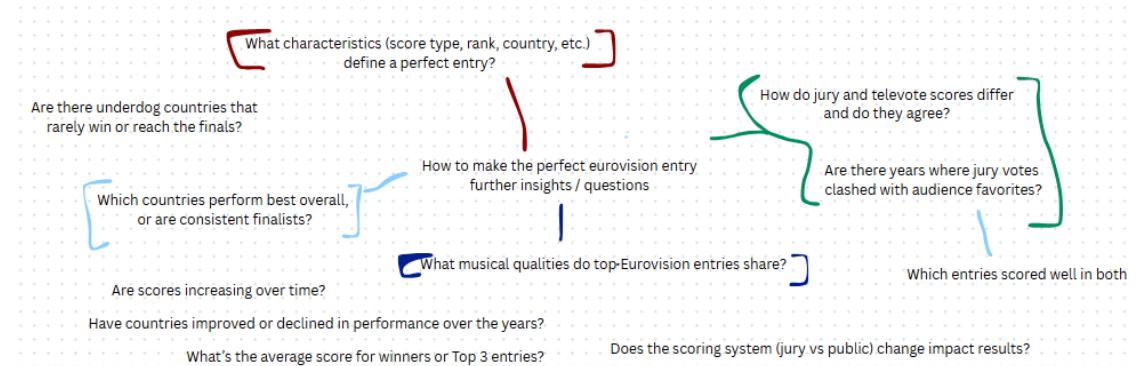
We all decided to create individual 5 design sheet methods, after brainstorming together. We then compared our approaches, made notes of reflection on each sheet, and came to a conclusion. We combined these into a finalised design sheet, which was implemented in D3.js.

240032516; 5 Sheet Design Method

Initial Open Ended Question Brainstorming, Sheet 1



Chosen Question- How To Make The Perfect Eurovision Entry:



e, or

See top-performing entries per year or overall

ng

Emphasise entries that score highly in both jury and televote

filter by year/country

identify common traits of top ranking songs

Potential Filters and tasks

Find specific entries

score distribution across years

televote vs jury

Use time-series views to observe how scores or rankings change over time

Hover to reveal detailed info about a song

Attribute Elicitation

Non subjective Attributes

Attributes

Column	Type	Description
Year	Quantitative	Year of contest
Country	Categorical	Representing country
Artist	Categorical	Name of artist or group
Song	Text	Title of the song
Final Points	Quantitative	Points received in the final
Final Rank	Ordinal	Final placement in contest
Semi Points	Quantitative	Points received in semi-final (if applicable)
Semi Rank	Ordinal	Rank in the semi-final
Is Finalist	Boolean	Whether the country reached the final

Subjective Attributes

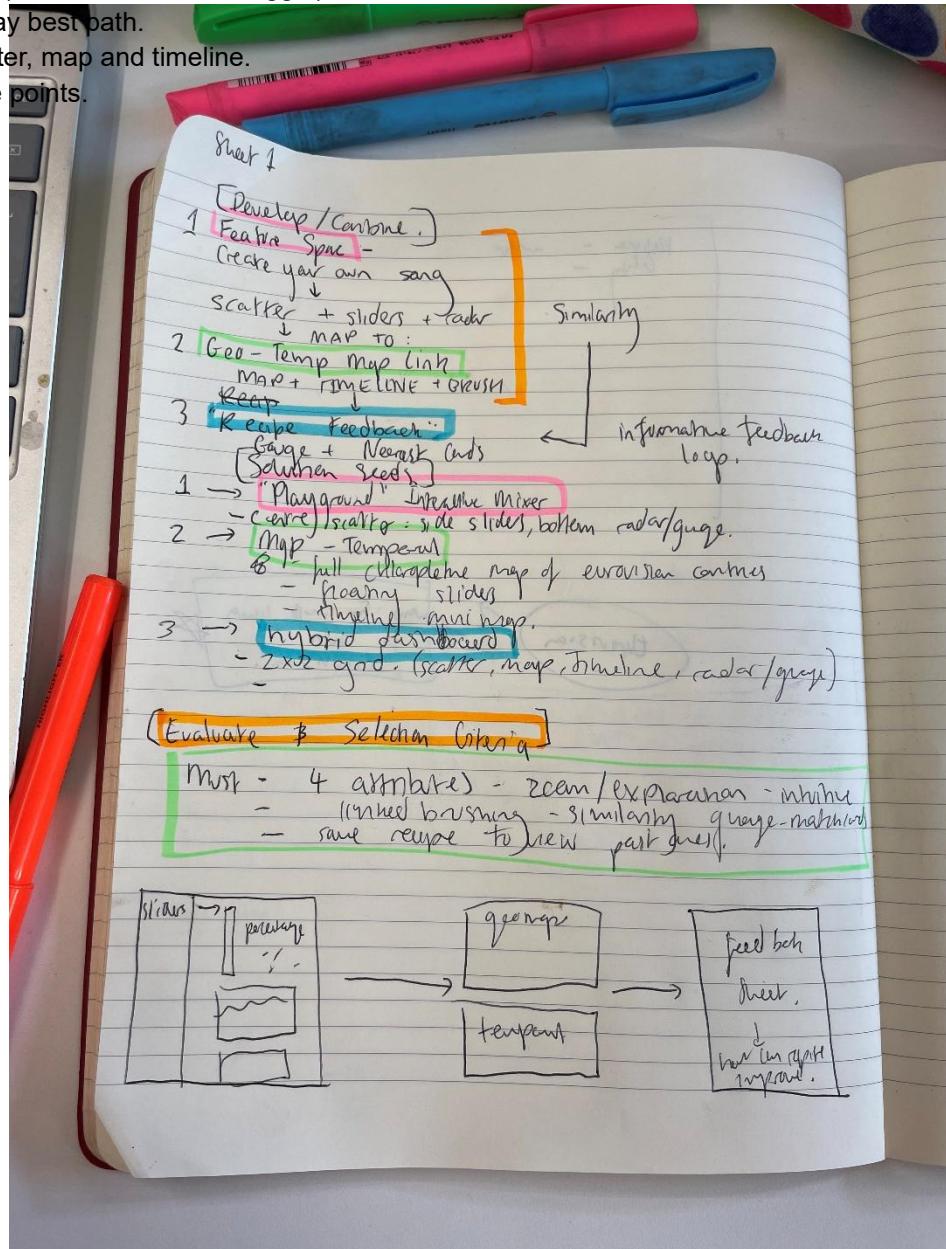
Attribute	Type	Example Use
Final Rank	Ordinal	Outcome/success measure
Danceability	Quantitative	Compare across entries/years
Valence	Quantitative	"Happiness" level of song
Tempo	Quantitative	Style/genre indicator
Energy	Quantitative	Intensity of performance
Loudness	Quantitative	Could reflect boldness or aggression
Speechiness	Quantitative	Spoken-word or rap content
Acousticness	Quantitative	Stripped-down vs. produced feel

In order for the user to interact with the question "what makes the perfect Eurovision entry", the user can "build" their own entry based on the acoustics and see how close to the perfect entry they can get?

- Allows exploration within the dataset exploratory, drag and drop functionality, "mixing deck" would be an interesting concept to follow.
- Can view geographic map to which country or time-period would enjoy the song the most based on subjective attributes
- Audience: Eurovision fans, musicians, would want interactive song creator.

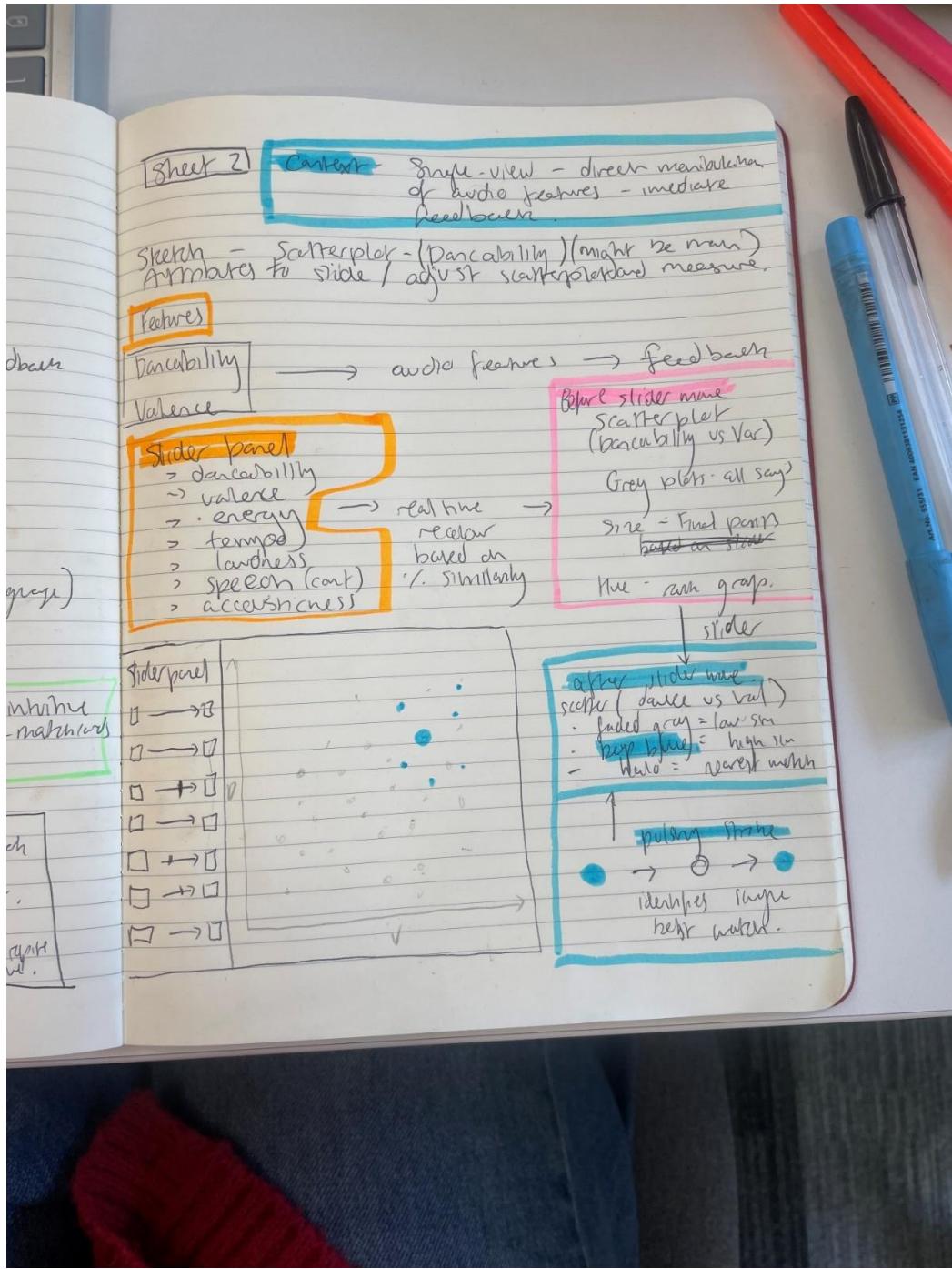
Potential Ideas- Initial Ideation:

- Scatterplot (Danceability by Valence).
- Parallel cords of 7 features.
- Radar overlay of Top5 averages.
- Similarity Gauge (0–100 %).
- Choropleth Map (colour = country similarity).
- Timeline Heat-strip (year by similarity).
- Nearest-match Cards with YouTube links?
- Slider Control Panel (7 features + finalist toggle).
- Story Button, autoplay best path.
- Brushing to link scatter, map and timeline.
- Sparkline of average points.



Further Elicitation of Potential Visualisations:

UI Region	Key Components	Primary Data / Attributes Used	Purpose & Interaction
A. Control Panel (left sidebar / modal)	<ul style="list-style-type: none"> Country selector (optional) 7 audio-feature sliders: Danceability, Valence, Energy, Tempo, Loudness, Speechiness, Acousticness "Finalist-only" checkbox -Find Nearest Match button 	7 Spotify features, Country, Is Finalist	Let users specify a hypothetical song; pushes values to all linked views.
B. Live Radar Chart + Similarity Gauge	<ul style="list-style-type: none"> Radar [7 spokes] Animated gauge (0–100 %) 	7 audio features, computed similarity score	Immediate visual feedback on how perfect the current recipe is.
C. Feature-Space Scatterplot [overview view from Flow 1]	<ul style="list-style-type: none"> Danceability × Valence (pos) Bubble size = Final Points Colour = Rank Group 	7 features (for similarity) Final Rank Final Points	Shows global landscape; highlights nearest historical match and filters when map/timeline brushed.
D. Geographic Choropleth	<ul style="list-style-type: none"> TopoJSON map (Europe/world) Colour = country-level average similarity Tooltip with best-match song & rank Click to lock filter 	Country, aggregated similarity, Final Rank, Song, Artist, Year	Answers where the recipe resonates; clicking filters, scatter & gallery.
E. Timeline Heat-Strip	<ul style="list-style-type: none"> Year strip coloured by avg. similarity Optional spark-line of avg. Final Points Brush to zoom/filter 	Year, aggregated similarity, aggregated points	Answers when the recipe works best; brushing years updates all other views.
F. Reference Gallery / Details Panel	Cards for top 3 historical matches [thumbnail, Song, Artist, Year, Points, Rank, play link]	All base fields, similarity ranking	Provides concrete examples; updates with map/timeline filters or Find Nearest Match click.
G. Saved "Recipes"	Table/JSON export list with timestamp & feature vector	Slider state	Allows users to compare multiple custom songs or download parameters.



Full Potential View

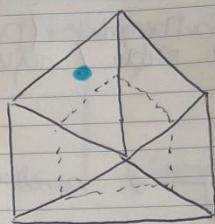
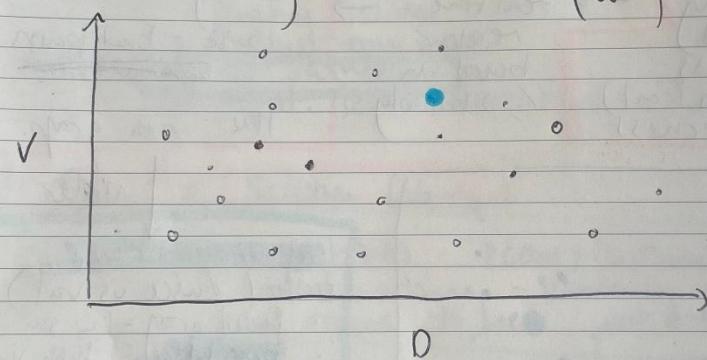
where the dot is True
'made up entry'

Slider panel

AUDIO Feature Slider.

[Danceability]	— 0.73
[Valence]	— 0.66
[Energy]	— 0.83
[Tempo]	— 128
[Loudness]	— 6db
[Scream (avg)]	— 0.05
[Alarmingness]	— 0.22

L7 - Finalist only



Similarly To Reflect Entry

78%
(or gradient red to green)

Rationale

- Inuitive cue and effect

- low cognitive load

- less geographic insight

should
link to
topical and
geographic
view.

Context:

This dashboard focuses on giving the user a real-time, audio-feature-based design (subjective) to craft their “ideal Eurovision song”.

Attribute mapping summary:

Data Attribute	Visual Channel	Reasoning
Danceability	x-pos	Most interpretable horizontal metric
Valence	y-pos	Emotive vertical axis fits “happy↑ / sad↓” metaphor
Final Points	Bubble size	Pre-attentive cue for success
Rank Group	Colour hue	Categorical groups (Top5, blue, Mid grey, Low tan)
7 audio sliders	Radar radius	One spoke per feature (Munzner marks/channels)
Similarity	Gauge angle	Single summary metric

Reflections and Critiques

Pros:

- Encourages active learning and experimentation.
- Provides direct feedback without overwhelming with views.
- Low cognitive load
- Scatterplot makes clusters and outliers easy to interpret.
- All changes feel responsive, cause and effect is visible.

Cons:

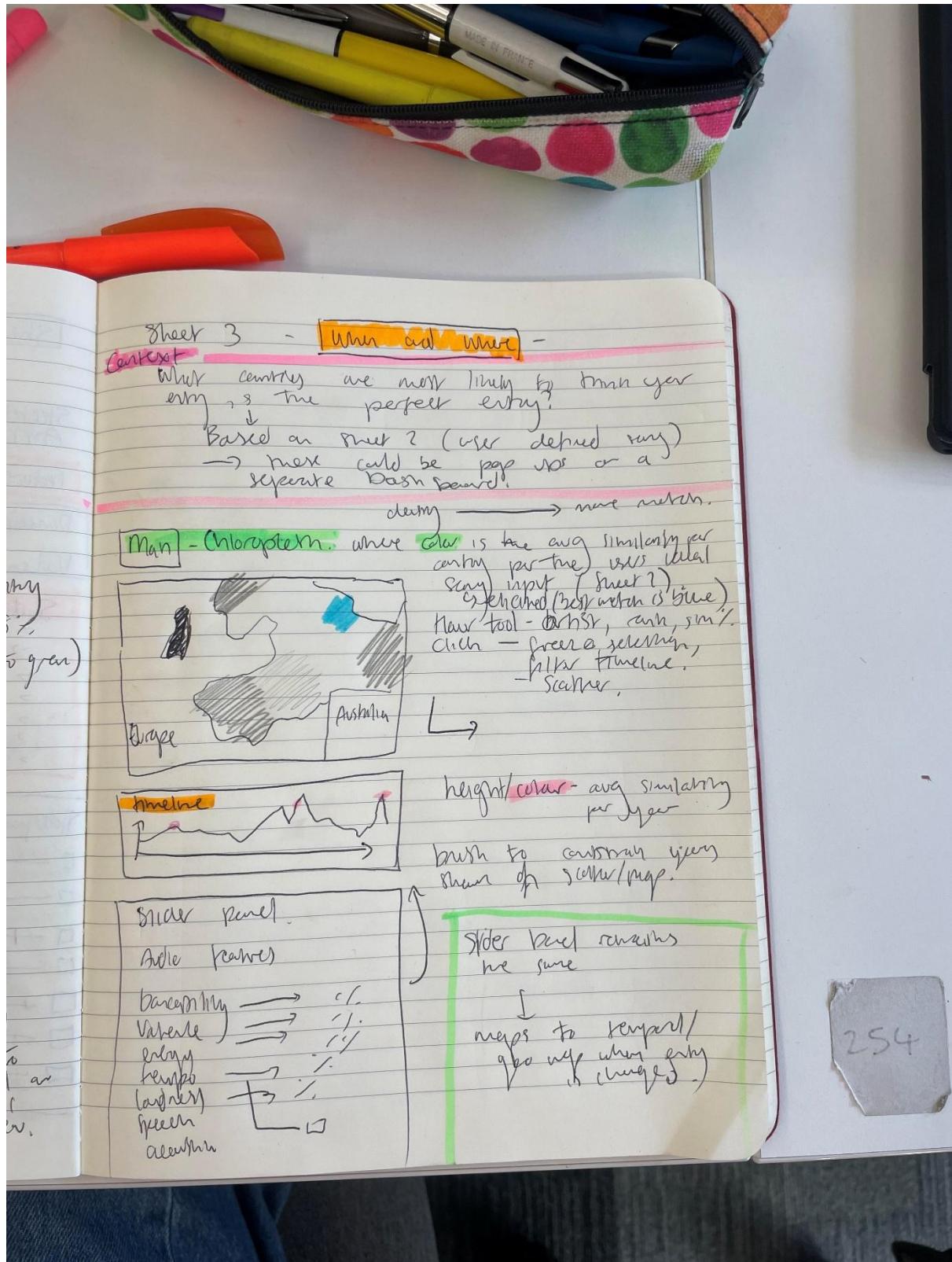
- Lacks geographic or temporal views for context, integrate with another sheet?
- Doesn't show where/when the song would succeed.
- Limited to two dimensions in the scatterplot.
- No way to compare multiple recipes side-by-side.
- Similarity measure may not be easily interpretable without external explanation.

Zoom:

- The scatterplot allows zooming into dense regions to inspect how top-ranking songs are distributed.

- Potential to add a tooltip history or ghost trails to show how similarity improves with each adjustment.
- Could integrate clustering or trend lines to show natural groupings.

Sheet 3



Context:

Based on sheet 2, the user mixes the song combination on audio features, allowing users to answer: "Where in Europe (country-wise) and when in time (year-wise) would my song be most successful based on historical data?" Connecting audio similarity to country and year.

Attribute Mapping Summary:

Data Attribute	Visual Channel	Reasoning
Country	Choropleth area fill (colour)	Shows geographic similarity distribution [avg. similarity per country]
Similarity (per country)	Choropleth colour gradient	Pre-attentive cue for regional compatibility; darker = better match, blue for best match as country
Year	x-position on timeline	Standard temporal layout; intuitive for historical analysis, see what time line the song would be most likely to win in
Similarity (per year)	Timeline height / line position	Communicates how well user's recipe fits different eras
Similarity (per song)	Tooltip value, bubble glow	Details-on-demand in hover tooltips; highlights best match
Artist / Song Title	Tooltip text	Identifies real historical matches to user's audio profile
Final Rank / Points	Tooltip / marker symbol	Used for qualitative comparison alongside similarity score

Critiques and Reflections

Pros

- Connects subjective audio features to entry success by year/country.
- Brings depth to the similarity metric by connecting it to regional/cultural preferences.
- Timeline is intuitive for seeing changes in musical trends, encouraging research.
- Encourages comparative exploration e.g. countries vs. each other; potential for year by year filter
- Makes use of more dataset fields without overwhelming the user.

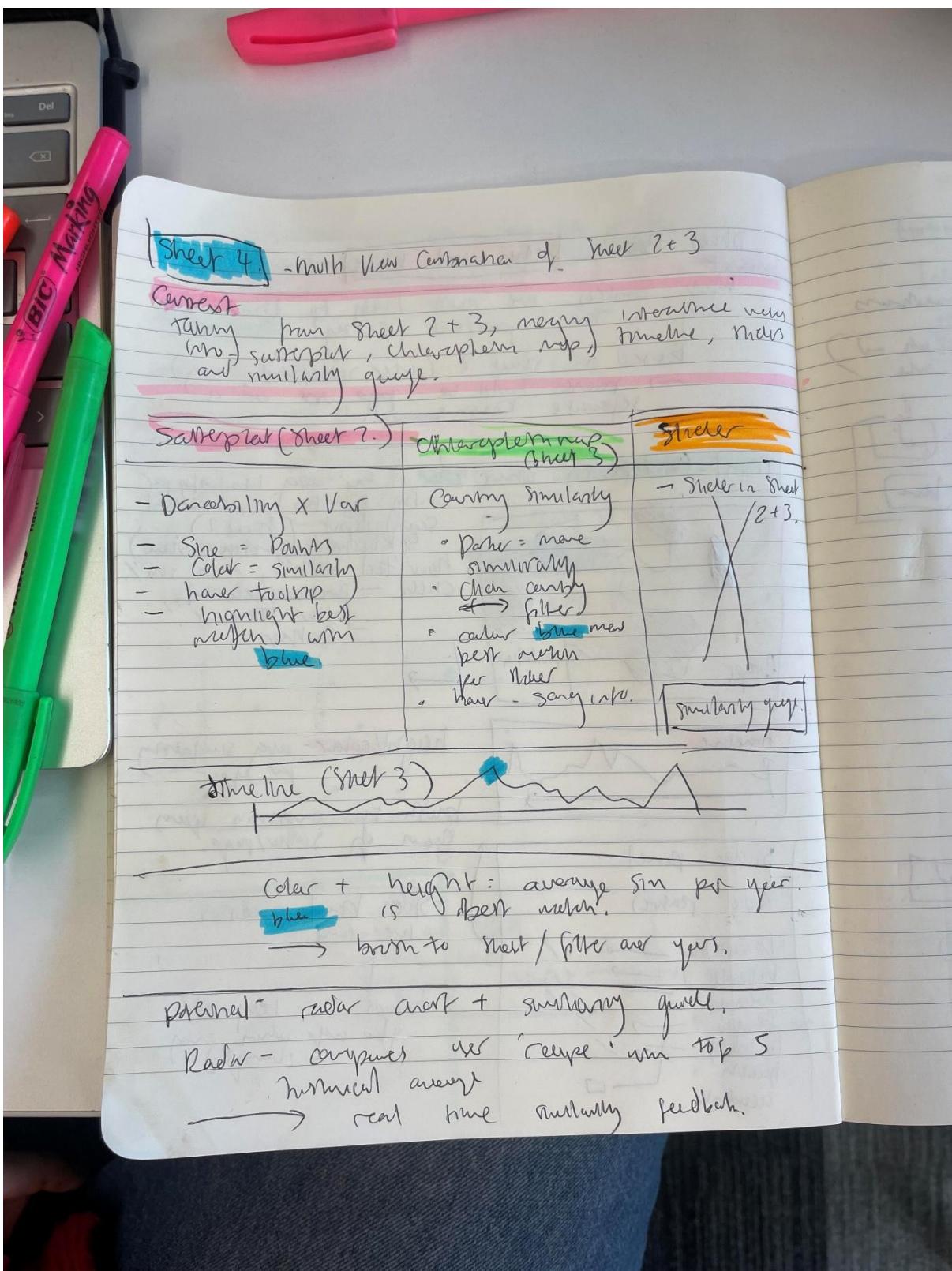
Cons

- Choropleth might oversimplify by averaging diverse entries.
- Some countries have fewer entries, making similarity less reliable.
- May be visually overwhelming on small screens, less exportability or pop ups.
- Requires tooltips to be interpretable.

Zoom

- Timeline brushing acts as a temporal zoom, for isolating eras of music.
- Map click acts as geographic zoom; lets users inspect how a song compares to past entries from a specific country.
- Could include magnifier effect on the timeline for finer year selection.
- Tooltips on both map and timeline allow users to uncover layered info without cluttering the screen.

Sheet 4-



Sheet 4 - Visualization

see many
ideas

idea

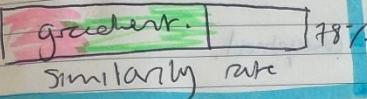
idea in Sheet
2+3.

year.

5

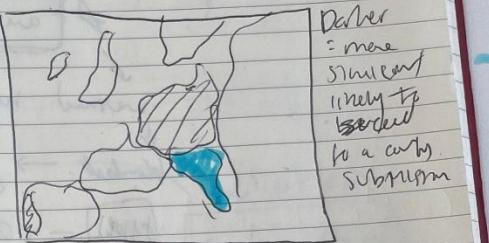
Audio Features

- Danceability
- Valence
- Energy
- Tempo
- Loudness
- Speech
- Acousticness

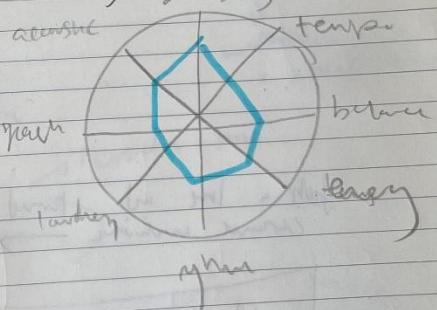
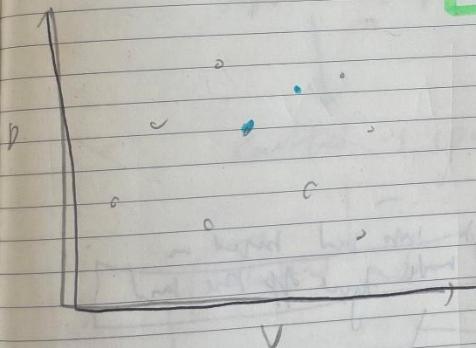
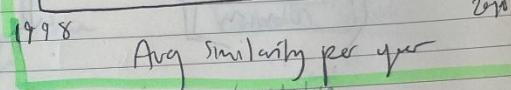


Blue means best match for country/hue
based on input song.

Choropleth Map



time line



The slider adjusts each man's scatterplot (it's not when gray is a previous entry).
Moving a country which we're going to.

Context

Integration of sheet 2 and 3, attempting to merge scatterplot, slider panel, radar chart, similarity gauge, timeline, and choropleth map in a coordinated view. Connecting perfect song with the geographic and time period simultaneously.

Attribute Mapping Summary:

Data Attribute	Visual Channel	Reasoning
Danceability	Scatter x-pos	Clear horizontal interpretation
Valence	Scatter y-pos	Emotional/mood metaphor
Final Points	Bubble size	Quickly conveys success
Similarity	Color opacity (scatter), Choropleth fill	Immediate perceptual feedback
Country	Choropleth location	Intuitive geographic visualisation
Year	Timeline x-pos	Standard chronological representation
7 audio attributes	Slider controls & radar spokes	Direct and interactive manipulation
Similarity (gauge)	Gauge angle & color	Single, intuitive success metric

Critiques and Reflections:

Pros

- Fully interactive: every view is both reactive and a filter.
- Visual balance between overview and detail.
- Highest potential for discovery, reflection, and justification.

Cons

- Highest implementation complexity; requires strong coordination logic, might be too high on cognitive load or require wireframing
- Potential information overload on small screens.
- Requires a good introductory explanation or onboarding tooltips.
- Can be cognitively intense

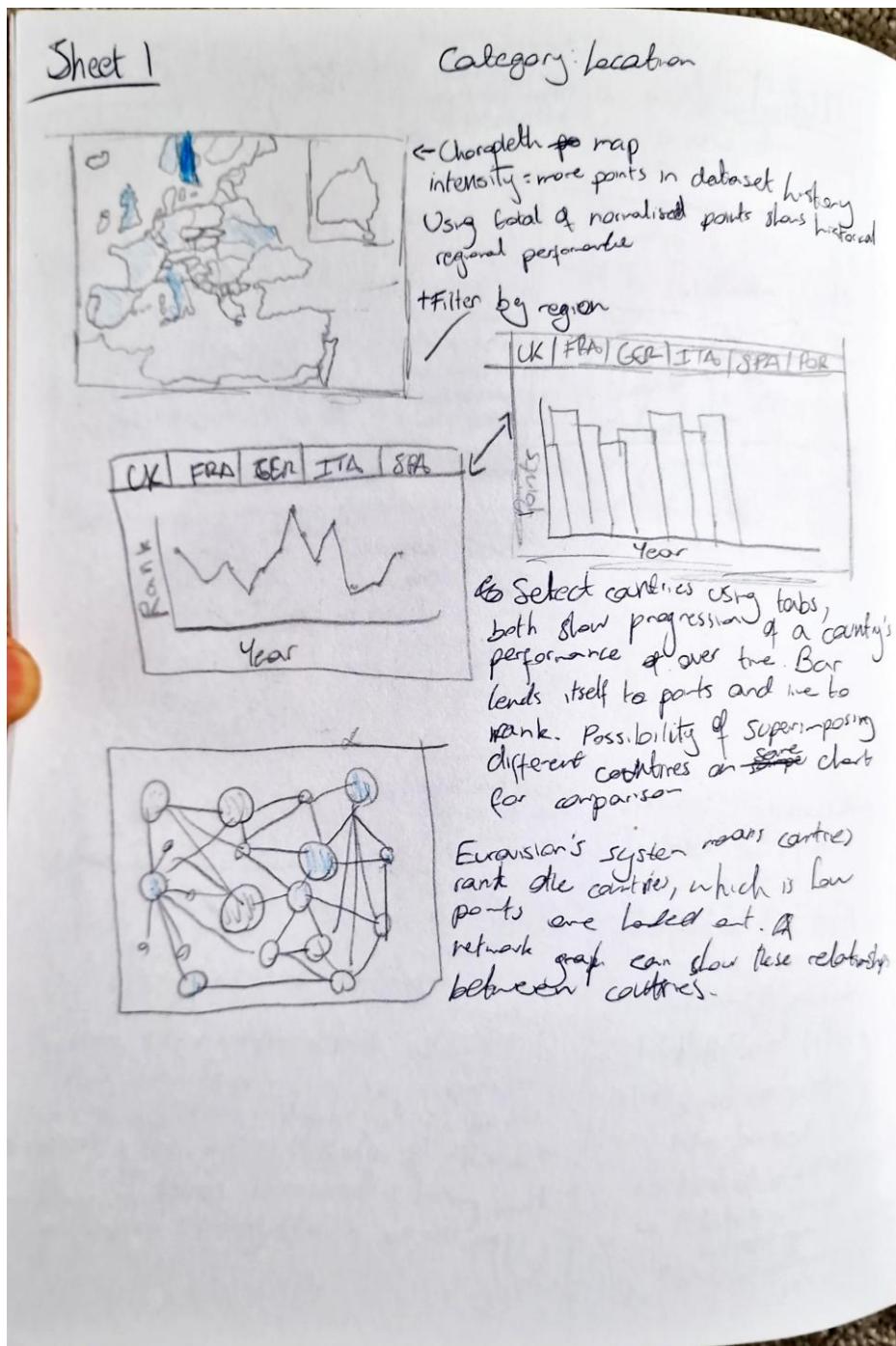
Zoom

- Timeline brushing lets users focus on specific Eurovision eras.
- Choropleth interaction reveals regional differences in song preference.

- Scatterplot zoom (via brush or scroll) reveals structure within the audio feature space.
- Dynamic recalculation of similarity ensures views always reflect user intent.
- Could support comparison between user's song and selected historical entries for side-by-side radar overlays.

210003236

Sheet 1



Context:

To show relations between countries and scoring, to give insight into the relationships between countries and their ranking procedure (jury over televote).

Critiques and Reflections:

Pros

- Enables contextual view of countries and Eurovision, supports the competitions context without explanation to new users.
- Shows potential political issues and relations between countries, how you can win votes based on how countries rank each other.
- Acknowledges that Eurovision isn't just a music contest but embodies international relations.
- Good tabs for explorable interface, low cognitive load
- Intuitive marks and encoding.

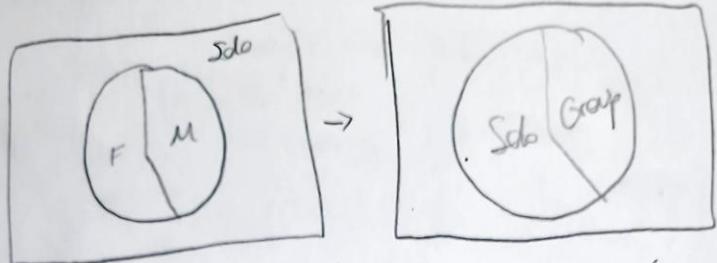
Cons

- Doesn't necessarily address the open-ended question elicited by the group.
- Doesn't illustrate the televote.

Zoom

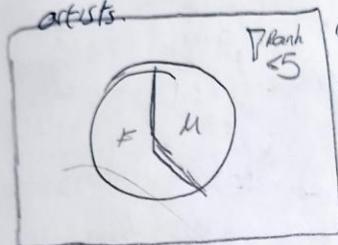
- Users can zoom into specific years to see how voting patterns shift.
- Network graph nodes expand or contract based on score weight.
- Hover reveals country pair data (e.g. "France gave 12 to Spain in 2005")
- Map zoom + region filter can isolate cultural clusters (e.g., Nordics, Balkans).

Category artist



?

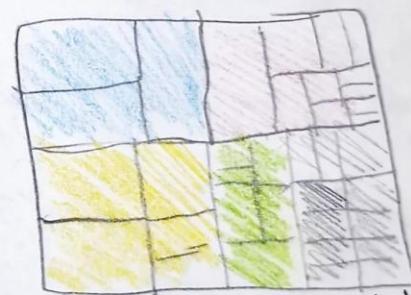
Pie charts can be used to show proportions among artists.



opportunity to filter by rank to see how distribution changes with success.



Different bars show countries
groups, solo, etc over time's
success measured as whether
they were top 5.



Treemap colour coded
by country shows countries'
preferences for artists
genres or something else.

Context:

This design focuses on the role of artist profiles in Eurovision success. It explores how different artist categories are affected by social bias.

Critiques and Reflections :

Pros :

- Intuitive visual encodings make data approachable.
- Supports filtering and exploratory comparisons by country and year
- Highlights under-discussed success factors
- Potential for social/cultural analysis layer (e.g., gender equity in performance).

Cons :

While musical qualities are often discussed, the influence of artist makeup (solo vs group, gender) is underexplored.

- Not audio-feature driven (i.e. doesn't relate to what makes the perfect song).
- May rely on limited or ambiguous metadata e.g. group/solo classification.
- Does not explore inter-country relationships or audio distribution.

Suggestions from group:

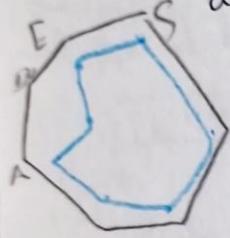
- Use pie charts to highlight immediate categorical proportions.
- Introduce a Top-5 filter to observe which artist types are over- or under-represented in winners.
- Use violin plots for nuanced statistical insight into scoring distributions.
- Treemap layout provides regional insights into cultural/genre preferences.

Zoom :

- Zoom into specific decades or contest eras to reveal shifting artist trends.
- Explore differences between countries in artist preference or outcomes.
- Zoom into tails or median areas for deeper stats.
- Click into country blocks to break out underlying entries by year or artist subtype.



Filter !
A radar chart
can show features
among a subset
of songs (e.g. top 5)



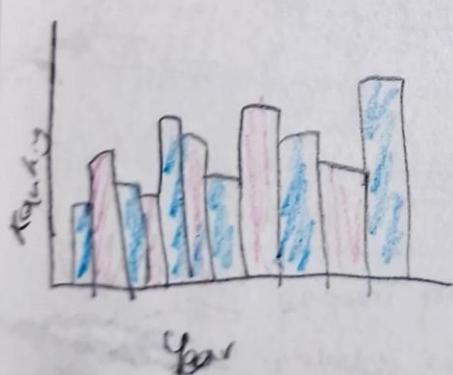
Category: song



Size shows relative score
(blue circle shows country/
region or any other
categorical data)

	Np	R	P	D	E
Np	0.9				
R		0.81			
P			0.8		
D				0.91	
E					0.99

← Correlation matrix
to show correlation
between



Grouped bar (by language)
chart to show progression
in rankings or value
over time by language

Context:

Context:

This design investigates the relationship between **audio features of songs** (e.g., energy, valence, tempo, danceability) and their success in Eurovision.

Critiques and Reflections :

Pros:

- related to the group's main question.
- Diverse visuals support both summary and detailed comparison.
- Radar and correlation views support exploratory learning and pattern recognition.
- Can easily be extended to include user-designed feature inputs.

Cons:

- Assumes audio features are cleanly categorized and normalized.
- Bubble chart may overlap points and obscure clarity.
- Radar readability drops if too many lines or categories are shown.

Group Suggestions:

- Use radar charts to compare multiple feature profiles clearly.
- Use scatterplots or bubble charts to correlate performance with features.
- Introduce a correlation matrix to understand inter-feature dependencies.
- Filterable bar charts let users explore differences by year, genre, or region.

Zoom:

- Hover on vertices for value breakdown; compare multiple overlays.
- Pan/zoom on dense clusters; tooltip for details-on-demand.
- Hover to display actual values and feature definitions.
- Filter by country or genre to view time-series patterns more clearly.

Sheet 2:

Sheet 2.

operations / Description

The main view is an interactive choropleth map.

- Colour intensity shows how many points that country got that year.
- There is a year slider to show progression over time.
- Clicking on a country will focus on it and using arrows, the points given by that country to another can be shown. The size of the ~~arrow~~ shows no. of points given and color ~~also~~ can show country if unclear (from flag, manual mapping).
- Clicking on the arrow or another country can shift focus to that other country instead.

The parents given by a country can more clearly be seen in a Sankey diagram.

Context

This design presents an interactive **choropleth map** of Eurovision scoring, with dynamic focus on how countries award points over time.

Critiques and reflections

Pros

- Makes abstract cultural alliances visually concrete
- Year slider and map zoom make exploring trends intuitive
- Sankey chart adds clarity to directional relationships
- Emphasises Eurovision as a socially complex system

Cons

- May overemphasize politics without enough musical context; not answering how to win Eurovision based on audio merit alone
- Requires good legend/tooltips to avoid misinterpretation.
- Might require preprocessing to normalize point distributions.

Feedback from group

- Valued focus on countries as agents in Eurovision, especially the voting network.
- Some suggested adding jury vs televote split to highlight nuanced scoring differences.
- Appreciated interactivity of slider and Sankey combo.

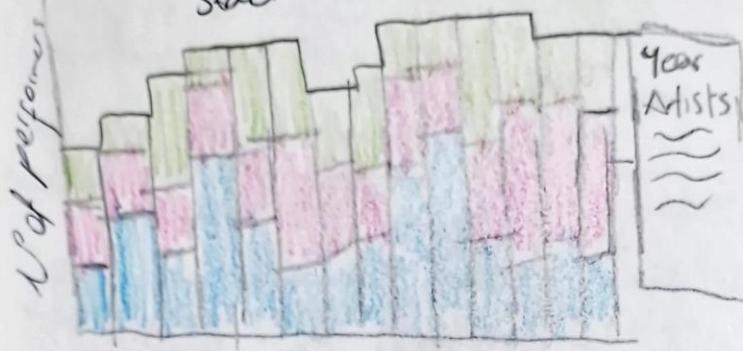
Zoom

- Country click = geographic zoom.
- Timeline scrub = year-based temporal zoom.
- Sankey node hover = relationship zoom ; specific dyads
- Could extend to cluster highlighting e.g., Balkans, Nordics on the map.

Sheet 3:

Sheet 3:

Stacked Bar chart



Operations/description

A stacked bar chart shows how many acts there are each year and the proportion of genders/groups each year.

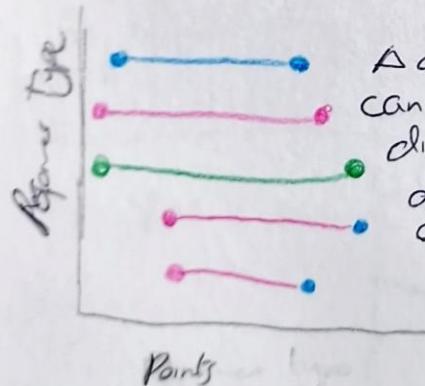
Hovering will give a tooltip showing information about the artists in that stack.

A jittered dot plot can show the distribution of different performer types by score. The dot size represents number of times they have appeared as there are repeat artists.

Clicking on a dot will give information about the artist and their song.

A dumbbell chart offers a different approach to showing the information shown on the jittered dot plot.

A dumbbell chart can show the score distribution of different types of performers.



Points

Score Type

Context:

The Eurovision stage hosts a wide variety of performers. This design investigates how different performer profiles succeed or fail over time

Pros:

- Clear breakdown of performer types over time.
- Dot size in jittered plot adds another dimension ; frequency of appearance
- Dumbbell chart allows clean comparison of scoring ranges.
- Tooltips and click interaction deepen engagement.

Cons:

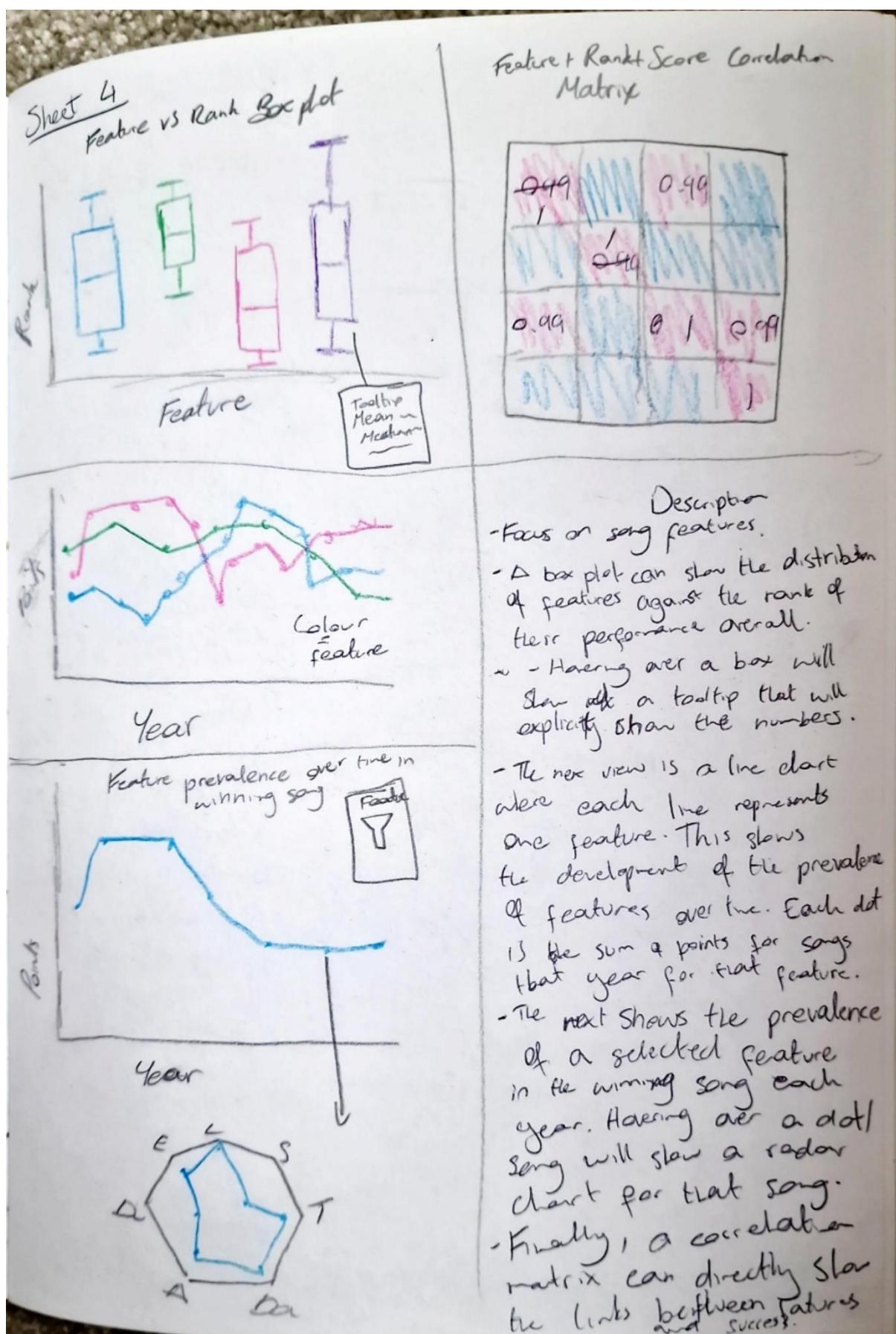
- Doesn't explore musical/audio features directly.
- Might over-simplify complex social/cultural factors behind performer choices.
- Colour choices must be distinct to differentiate overlapping dots

Feedback:

- The group found the visual storytelling very effective in exposing relational voting behavior
- There was strong support for the year slider and Sankey as intuitive entry points into the data
- Some suggested adding a comparison model e.g., toggle between jury and public vote, or year-to-year deltas).
- It was also recommended to add a "cluster mode" to highlight known voting blocs

Zoom:

- Year filtering allows focus on trends by decade.
- Users can pan and inspect dense regions or outliers.
- Tooltips reveal mean/median per group; clicking toggles highlight or comparison mode.



Context:

This design investigates the question: "**How do audio features correlate with Eurovision success?**"

Pros:

- Box plots are ideal for comparing distributions and spotting outliers.
- Correlation matrix gives direct insight into inter-feature and feature-to-rank relationships.
- Yearly tracking of features supports temporal trend analysis.
- Brings together aggregate analysis and specific song-level context.

Cons:

- Requires careful colour selection to avoid visual clutter in line charts.
- Box plots and correlation matrix may be less accessible for novice users.
- Hovering and clicking complexity may need onboarding for best usability.

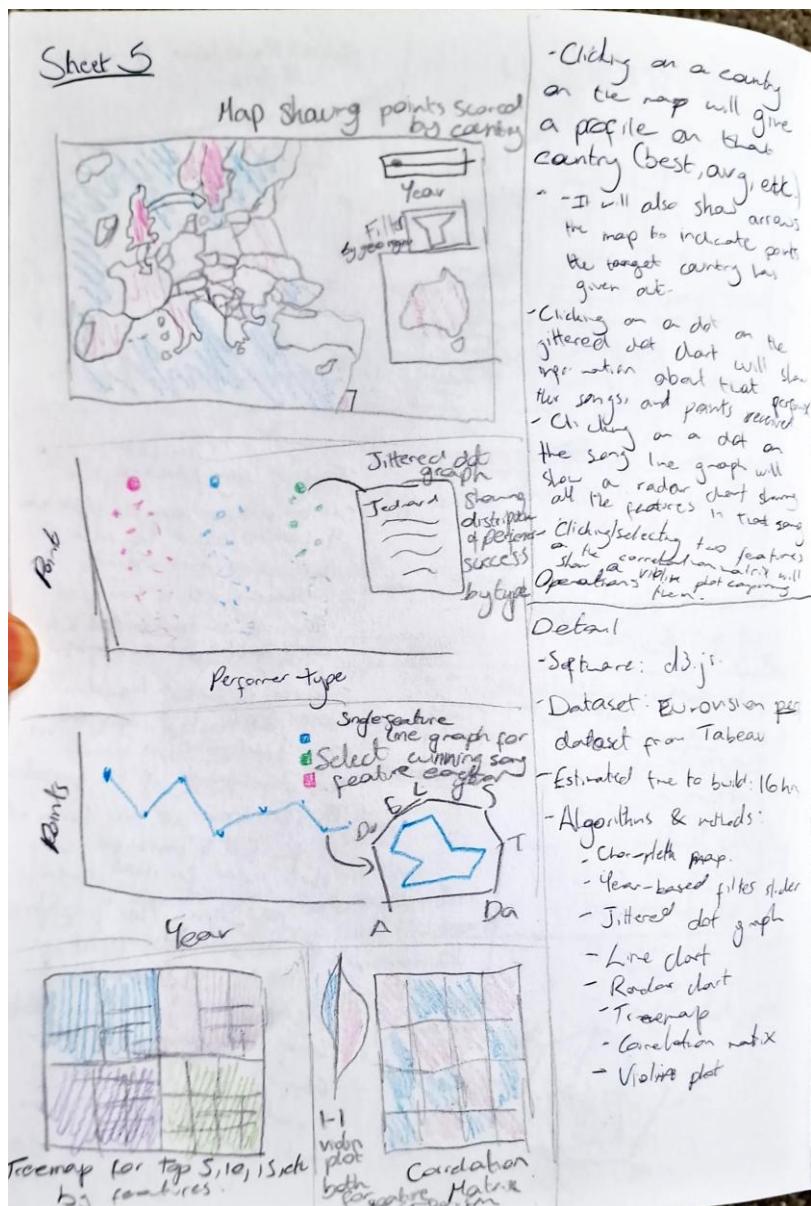
Feedback from Group

- Group members appreciated the clarity of the box plots and felt they grounded the abstract audio features in something interpretable.
- There was interest in using the correlation matrix to drive recommendations, i.e., which features to prioritise when designing a song.
- Some found the feature-prevalence timeline particularly insightful and wanted a way to compare multiple features in the same view.
- A suggestion was made to combine this with user-input sliders from another sheet to provide live predictions or rankings.

Zoom

- Lets user zoom into specific decades to view changes in audio trends.
- Hover to explore feature-link strength; click to filter charts by those features.
- Zoom into feature trend and click on year → show radar for that winner.
- Details-on-demand for each axis (feature).

Sheet 5:



Final Concept

The final interface combines the best elements from all previous views into a cohesive dashboard. It allows users to:

- Click on a country to reveal its historical Eurovision profile.
- Use jittered dot plots and line graphs to explore performer type and scoring trends.
- Drill down into specific songs and years to uncover how features relate to rank

sheet 1 240011773

The Anatomy of a Eurovision Finalist: Structural, Linguistic, and Performative Trends (1998–2012)

1. Valence of Structure: Time Signatures and Keys in Eurovision Final Entries

Focus: What time signatures and keys are most common among Eurovision final entries? Is there a "structural preference" for successful songs?

Method: Analyze the distribution of time_signature and key in final entries from 1998 to 2012.

Significance: This may reveal whether certain musical structures are more representative of songs that reach the finals.

2. Language and Performance: Between Mainstream Appeal and Artistic Identity

Focus: Is English the dominant language among finalists? Are group performances more frequent than solo acts? Have these trends remained consistent over time?

Method: Examine the proportion of final entries that are in English (Song.In.English) and whether they are performed by groups or solo artists (Group/Solo).

Significance: This sheds light on linguistic dominance and performative preferences in the Eurovision Song Contest.

3. The Sound of a Finalist: Acoustic and Performative Features of Final Entries

Focus: What are the common acoustic and performance characteristics of final entries in terms of energy, danceability, tempo, valence, etc.?

Method: Analyze Echonest audio features to identify and visualize general trends in finalist songs.

Significance: Provides a data-driven understanding of what a "finalist" song typically sounds like.

However, this analysis will be set aside for now. The acoustic features provided by the dataset are represented numerically, and the differences between the values for each song are relatively small. This limits the ability to identify significant trends or make meaningful distinctions across the data, making it less suitable for the current exploration.

General Assessment

Advantages: The approach avoids using "score" as the sole success metric, and instead takes a holistic, descriptive view of the musical and performative traits of songs that reached the final round—offering a broader and more objective perspective.

Disadvantages: It may not directly answer predictive questions like "What features lead to high scores?", but serves as a solid foundation for integrating with such models later.

Key + Time Signature: Tree Map

There are too many categories, making the area divisions appear crowded. Colors become difficult to distinguish, and using area to represent frequency hinders precise comparison. This compromises the clarity of information delivery.

Language + Group or Solo: Highlight Table

Lacks visual encoding such as length or area, making it ineffective for showing distribution trends. The visual impact is weak, and reading relies more on numbers and text, which reduces the ability to convey key points intuitively.

How to Create the Perfect Eurovision Entry: A Data-Driven Analysis Based on 1998–2012 Contests

1. The Anatomy of a Eurovision Finalist: Structural, Linguistic, and Performative Trends (1998–2012)

(1) Structural DNA: Time Signatures and Keys in Eurovision Final Entries

Mainstream Time Signatures + Major Keys = Pop Music Paradigm

Most works adopt a 4/4 time signature combined with major keys such as A, D, or E major, creating clear melodies and a strong sense of rhythm, making them easy to perform and popularize.

This results in a typical pop music style, emphasizing "listenability" and stage performance appeal.

Uncommon Time Signatures × Rare Keys = Differentiated Expression

Using unconventional time signatures like 3/4 or 5/4, or rare keys such as G minor or B minor, conveys ethnic characteristics or experimental styles.

These choices reflect the artist's strategy to create a unique stage presence.

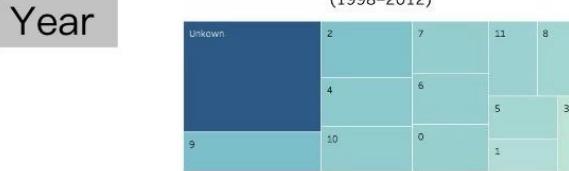
Unknown Data: Freedom and Exploration in Creation

There are 166 works without specified time signatures or keys, which may involve modal music, shifting meters, or non-traditional harmonic systems.

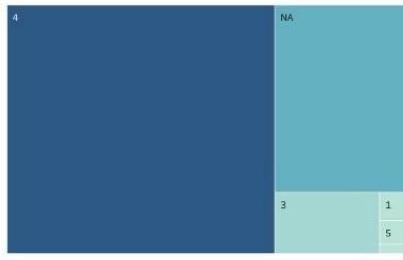
This suggests a higher degree of creative freedom and stylistic diversity.

The choice of key and time signature is not only a technical component of musical style, but also a deeper reflection of the contestant's creative intentions, cultural background, and strategic stage positioning.

Key Distribution of Eurovision Song Contest Entries (1998–2012)



Time Signature Distribution of Eurovision Song Contest Entries (1998–2012)



I chose to include age filters because I am particularly interested in examining Structural, Linguistic, and Performative Trends from 1998 to 2012. The year filter helps focus the analysis on entries from specific years, allowing for a more detailed understanding of the characteristics and patterns present in each competition year.

Year

(2) Language and Performance: Between Mainstream Appeal and Artistic Identity

The Dominance of English Highlights Communicative Power

A total of 472 songs were performed in English, accounting for approximately 73%.

Non-English entries are often used to showcase national culture and express local identity.

Group Performances Are More Popular

Group acts make up 422 entries, significantly more than solo performances (153 entries).

The group format helps create a vibrant stage atmosphere and enhances both visual and auditory impact.

Language and performance formats reflect the contestants' strategic decisions on stage:

The combination of "English + Group Performance" represents a widespread trend, while non-mainstream choices emphasize diversity and cultural identity.

Language



Group or solo



Chart Designs Not Adopted

Pie Chart for Key + Time Signature

Too many categories: Slices become too small, and labels overlap, making them hard to read and distinguish.
Comparison not intuitive: It's difficult to accurately compare proportions between categories.
Heavy visual load: Similar-sized slices fail to highlight key differences and create visual clutter.

Text Table for Language + Group or Solo

Low information density: Listing frequencies or percentages line by line doesn't effectively present the overall distribution.
Lacks graphical guidance: Without visual encoding like shape or area, it's harder for readers to identify data patterns quickly.
Poor at conveying comparison: Reading relies heavily on text, reducing visual impact and clarity.

Country filters enables focused comparison of structural, linguistic, and performative elements across different national contexts. Given the diversity of participating countries in Eurovision, this filter facilitates the identification of patterns influenced by cultural or regional presentation styles.

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(1) Structural DNA: Time Signatures and Keys in Eurovision Final Entries

Mainstream Time Signatures + Major Keys = Pop Music Paradigm

Most works adopt a 4/4 time signature combined with major keys such as A, D, or E major, creating clear melodies and a strong sense of rhythm, making them easy to perform and popularize.
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Uncommon Time Signatures × Rare Keys = Differentiated Expression

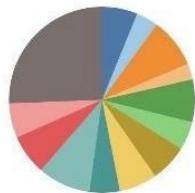
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Key Distribution of Eurovision Song Contest Entries (1998–2012)



(1) The Musical Code

Key + Time Signature: Bar Charts

Bar charts were chosen to visualize both Key and Time Signature distributions for their clarity and ease of comparison. Key includes 12 categories. A bar chart effectively presents the frequency of each key, allowing for intuitive comparison across categories.

Time Signature has fewer categories, but to maintain a consistent visual style and enhance readability, it is also displayed using a bar chart.

Visual Design Elements:

Color: Within a unified color palette, distinct colors are used for each category in both charts to improve category recognition and reading efficiency.

Position on a Common Scale: Frequency is mapped to bar height, enabling quick and clear comparison of category distributions.

Order: Categories are arranged in a purposeful order to guide visual attention and highlight key patterns in the data.

(2) Language and Performance Style

Language + Group or Solo:Pie Chart and Bubble Chart

Not adopted due to:

Limited information density : Doesn't effectively utilize available space

Weak structure : Lack of alignment and order reduces clarity and readability

The introduction of year filters and toolkits significantly enhances the flexibility and interactivity of this analysis.

The year filter allows users to refine the dataset by specific years, enabling the tracking of trends from 1998 to 2012 and in-depth exploration of particular years. By focusing on a single year, users can quickly examine that year's structural, linguistic, and performative characteristics in Eurovision entries, revealing annual differences and developmental trajectories.

Toolkits offer practical support for interactive visualizations. In the bar charts, although numerical values are not directly displayed above the bars, users can access precise figures by hovering the cursor over each bar. This approach maintains a clean visual layout while providing easy access to key data, thereby improving readability and user engagement.

In pie charts and bubble charts, category names are displayed directly on the visual elements, allowing users to immediately recognize different groups without additional interaction. Numerical values are revealed through tooltip pop-ups when hovering, shown in a "Category: Count" format, offering a quick and intuitive understanding of the scale and distribution of each category.

Overall, these design choices greatly enhance the clarity and usability of the visualizations, serving as effective analytical tools to support the exploration of *The Anatomy of a Eurovision Finalist: Structural, Linguistic, and Performative Trends (1998–2012)*.

Website Title: 1998-2012 Eurovision Song Contest Song Features and Score Prediction Analysis

1. The Musical Code of the Eurovision Song Contest: Analyzing Structure, Language, and Stage Strategy

(1) Musical Structure Features: Time Signature × Key – Shaping Stylistic Paradigms and Expressive Differences

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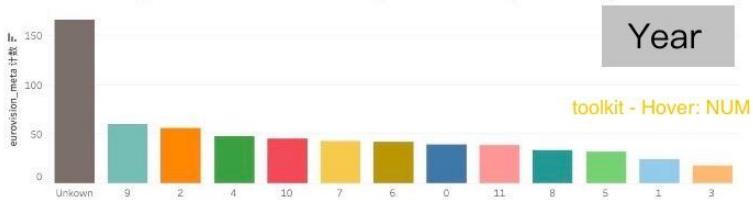
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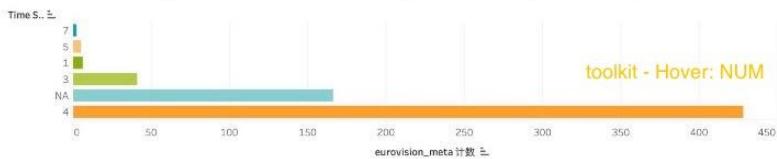
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Key Distribution of Eurovision Song Contest Entries (1998–2012)



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(2) Language and Performance Style: Balancing Mainstream Choices and Individual Expression

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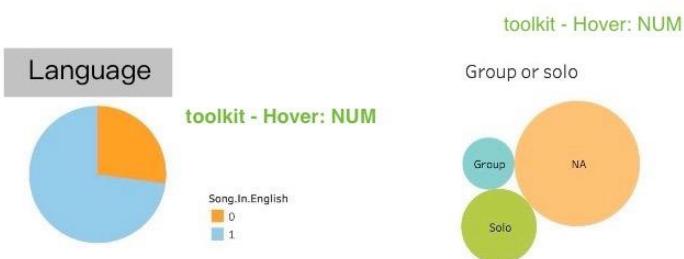
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Visual Design Elements:

Color: Within a unified color palette, distinct colors are used for each category in both charts to improve category recognition and reading efficiency.

Position on a Common Scale: Frequency is mapped to bar height, enabling quick and clear comparison of category distributions.

Order: Categories are arranged in a purposeful order to guide visual attention and highlight key patterns in the data.

(2) Language and Performance Style

Language + Group or Solo: Stacked Bar Chart

A stacked bar chart is used to display the combination of Language and Performance Type in a single visual. This approach increases information density and allows for simultaneous comparison of both categorical dimensions.

Visual Design Elements:

Color: Within a consistent color palette, distinct colors are used to represent different languages and performance formats.

Area / Length: The length of each bar indicates the total frequency, while the stacked segments reflect the proportion of subcategories.

Shape & Position: The compact bar structure and intentional category ordering improve readability and maintain visual consistency with the bar charts used elsewhere.

The year filter allows users to refine the dataset by specific years, enabling the tracking of trends from 1998 to 2012 and in-depth exploration of particular years. By focusing on a single year, users can quickly examine that year's structural, linguistic, and performative characteristics in Eurovision entries, revealing annual differences and developmental trajectories.

For all four charts, although numerical values are not directly displayed above the bars, users can access precise figures by hovering over each bar. This interactive feature improves the readability of the charts, keeping them uncluttered while still offering detailed insights. It allows users to explore the data dynamically, providing a seamless experience for examining trends across different years and categories.

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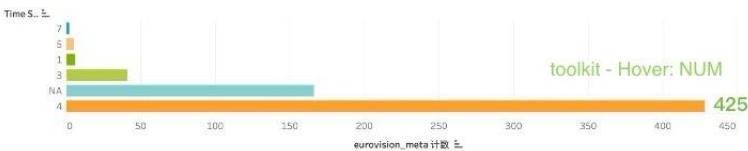
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Year filter

Time Signature Distribution of Eurovision Song Contest Entries (1998–2012)



Year filter

(2) Language and Performance: Between Mainstream Appeal and Artistic Identity

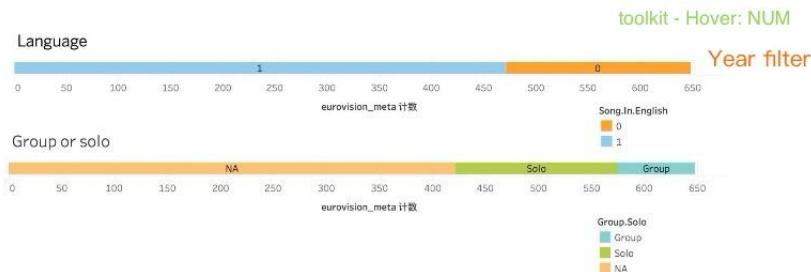
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The Anatomy of a Eurovision Finalist: Structural, Linguistic, and Performative Trends (1998–2012)- 240011773:

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language + Group or Solo

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Final Concept

The final interface combines the best elements from all previous views into a cohesive dashboard concept.

We aimed to allow users to:

- Click on a country to reveal its historical Eurovision profile.
- Use jittered dot plots and line graphs to explore performer type and scoring trends.
- Explore specific songs and years to uncover how features relate to rank.

Key Views Integrated:

- Interactive Choropleth Map with arrows showing voting flows.
- Jittered Dot Plot by performer type showing song success distribution.
- Radar Chart linked to selected songs.
- Line Graph for feature trends over time.
- Treemap showing feature distributions in Top 5/10 songs.
- Correlation Matrix linking features to rank.

Justification

This approach offers users three levels of insight:

1. Overview – where points flow and how countries relate.
2. Mid-level patterns – performer types, feature distributions.
3. Details-on-demand – specific winning songs and their audio profiles.

It links cultural, musical, and scoring data into a flexible visual analysis tool. The use of d3.js ensures interactive, responsive updates between views.

Key Interactions

- Clicking a country updates all views with its data.
- Hovering over a song dot brings up artist/song info and triggers radar chart.
- Clicking a year on the line graph zooms into that period.
- Matrix cells filter the other views by correlated features.

Techniques used:

- Choropleth Map
- Feature-based Jittered Dot Plot
- Line Chart (feature progression)

- Radar Chart (winner profile)
- Treemap (Top X feature prevalence)
- Correlation Matrix

Feedback from Group

- Strong interest in how multiple views are linked.
- Requested tooltip-rich views for better accessibility.
- Suggested clearer onboarding for filtering & reading radar data.
- Excited by the combination of cultural/geographic insights with feature-based exploration.

This sheet captures the essence of exploration and discovery within Eurovision analytics, which is what we aimed to achieve within this project.

Final Implementation

We came together, picked our favourite graphs and implemented them together in JavaScript, the design kept evolving as we programmed, using our initial design sheets as reference points.

This can be found in our annotations and comments within the scripts.