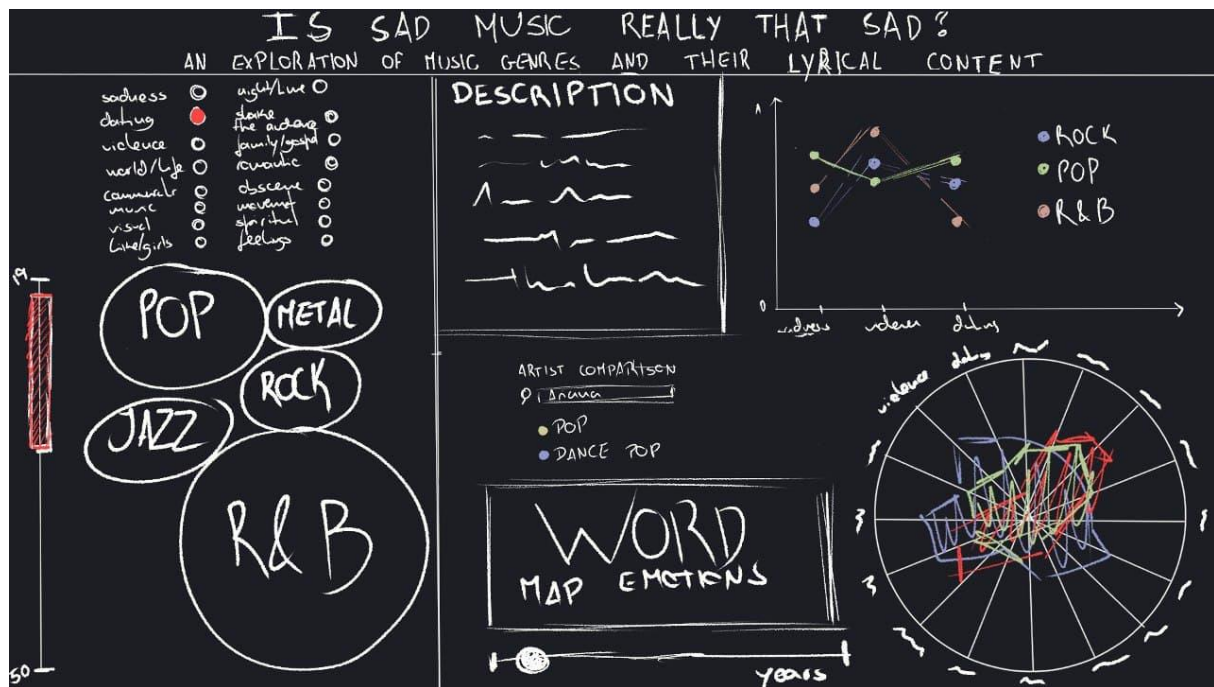


## Checkpoint III: Visualization Sketch

Group: G37

Date: 2021/10/17

### Overview



There are 4 types of idioms in our visualization:

- Bubble chart – illustrates genres/artists whose content is more related to specific themes
- Line chart – compare genres' depiction of each theme
- Radar chart – compare artists' theme values to selected genres
- Word map – show presence of lyrical themes in an artist's body of work throughout the years

The **bubble chart** allows us to **pick a theme** and see which main genres depict it the most. By clicking/zooming on a bubble, the bubble chart will switch to representing the specific genres relative to that main genre. By clicking/zooming again, you will see the artists relative to that specific genre. On the left of this chart, there is a timeline where a timeframe can be picked for which we want to see the results.

On the **line chart**, we can see the **difference** in values of **themes** between the different items represented on the bubble chart (either main genres, sub genres or artists). When a theme is selected on the bubble chart, the respective **theme** values on the line chart will be **highlighted**. When we hover an item (genres or artists), the line that represents it will also be highlighted.

The **radar chart** comes into play when you click on an artist on the bubble chart. It will show the artist's theme values overlapping selected genres' theme values. As such, we can **compare the artists to the genres** to which they are associated. Instead of using the bubble chart to pick an artist for the radar chart, we can also use the search bar on its left.

The **word map** will illustrate the **prevalence of themes** throughout the selected artist's (already being depicted in the radar chart) body of work. The words depicted will be the ones describing these themes. Below it, there is also a timeline in which we can select a year of the artist's song release dates. This way we can see how the word map will change **along the years** for that specific artist.

## Visual Encoding

- Bubble chart
  - Mark – each bubble (circle) represents either the genres or artist's name for that item
  - Channel – the area of the circle is as high as the value of the theme the user has selected (in the checklist above)
- Line chart
  - Mark – each dot (circle) represents an item's genre/artist and their value regarding a theme
  - Channels
    - the theme value ([0,1]) is represented by height on the y axis
    - which theme it depicts ([1,16]) is represented by the position in the x axis
    - each genre/artist is represented by the hue of the dots
- Radar chart
  - Mark – each radial line represents a theme
  - Channels
    - the position of a vertex on the line indicates theme value – the further from the center, the closer to 1
    - the hue of the shape created from the vertices indicates which artist or genre the shape refers to
- Word map
  - Mark – text that writes out the themes
  - Channel – the size of the text varies with the value (the closer to 1, the bigger it will be)

## Answering the Questions

Are some music genres associated with specific lyrical themes?

Line chart – we can check for each genre if there is a theme that has a much higher value than all other themes

Bubble chart – we can also check if a genre has a much higher presence of some theme than all other genres

Do artists always express the same themes throughout the years?

Word map – we can slide through the years to view the difference in theme prevalence in the artist's body of work

Have the lyrical themes evolved over the decades?

Bubble chart & line chart – we can select a specific time range and it will affect the data showed in both the bubble and the line charts. This way, by sliding the time frame, we can view the evolution in the prevalence of themes between genres

Do all artists do conform to the expected lyrical content inside their genre? Which artists don't?

Radar chart – we can compare the theme values of an artist and their genres

