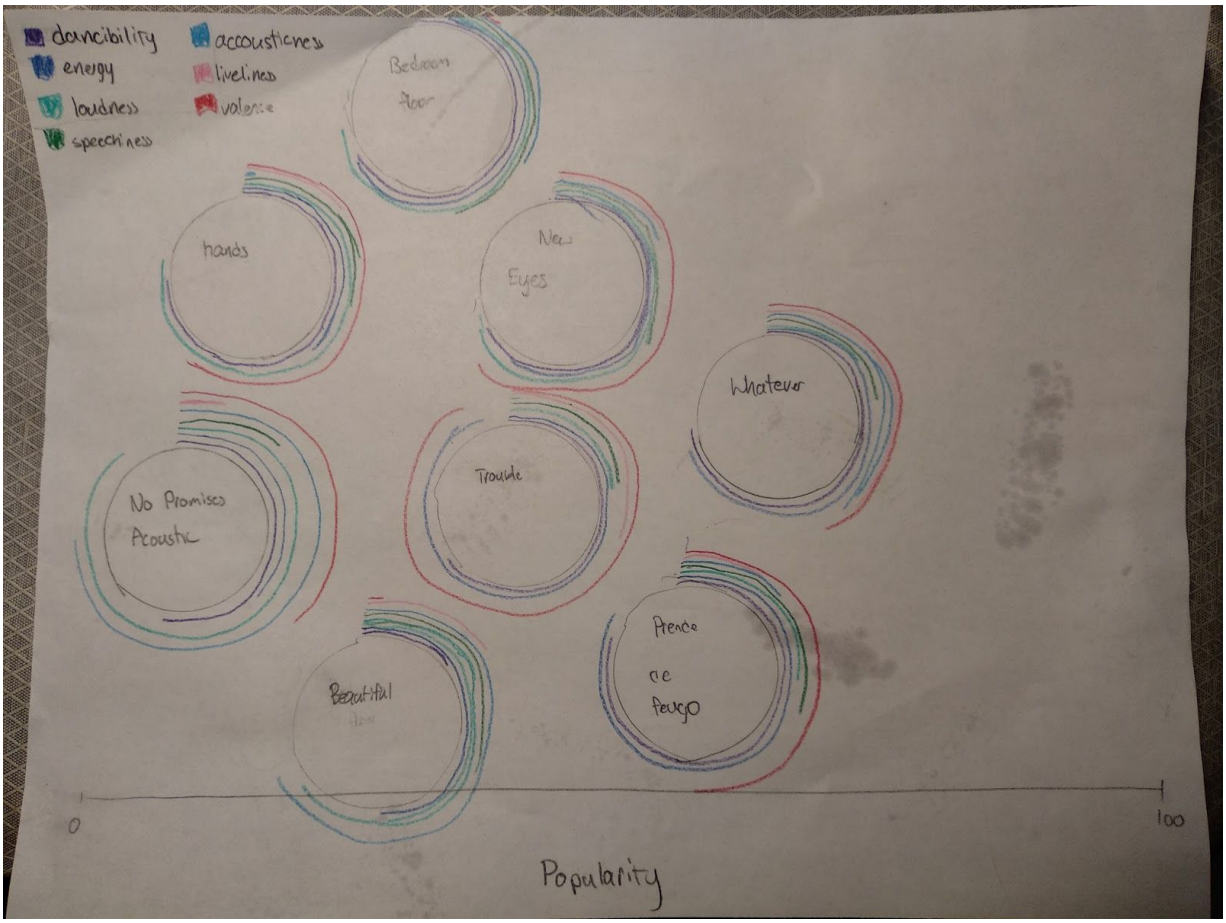
CPSC 583 Project Implementation
Group 5: Tyler Chow and Sunah Kim

GENERAL DESIGN DIRECTION

Figure 1. Chosen sketch



The sketch explores using position as the encoding for popularity, while using length for encoding the values of the song traits. Since most of the traits are normalized, i.e. all their values are between 0 and 1, we thought that having the lines wrap around in a ring would be a good way of expressing this range.

The problem that the design will address is identifying what makes a song popular. We see this design being used get a general idea of the characteristics of popular or non-popular songs. The target audience are people involved in music marketing and creating, such as a music producers, artists, and record labels. The target audience may be interested in how well a song may do in the market, if it will generate massive popularity or they may want to develop a song that will attract many people. Thus, the design of the visualization will aim to show features of songs and their popularity.

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GENERAL CONCEPT & THREE VARIATIONS

The general concept of our visualizations is to explore any correlations between popularity and various traits of songs. Basically, we want to see what traits make songs popular.

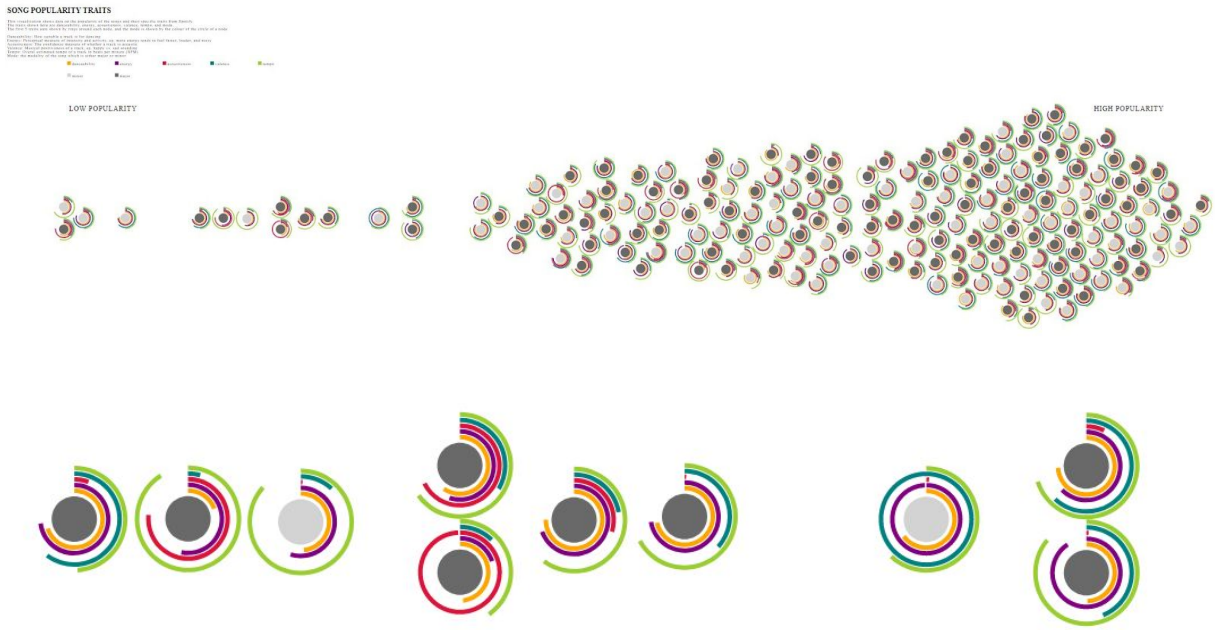

Figure 2. The First Visualization

The purpose of this visualization was to see the distribution of songs for popularity clearly. Thus, position was used to encode popularity since it is most accurate and effective. Each ring was scaled so that the song with the max value of a trait had a full ring, so traits are more comparable between different songs. Also, unlike the sketch, modality was shown by circle values (light grey or dark). The song name and artist can be viewed when hovering over a node.

https://pages.cpsc.ucalgary.ca/~sunah.kim/GroupProject/vis1/

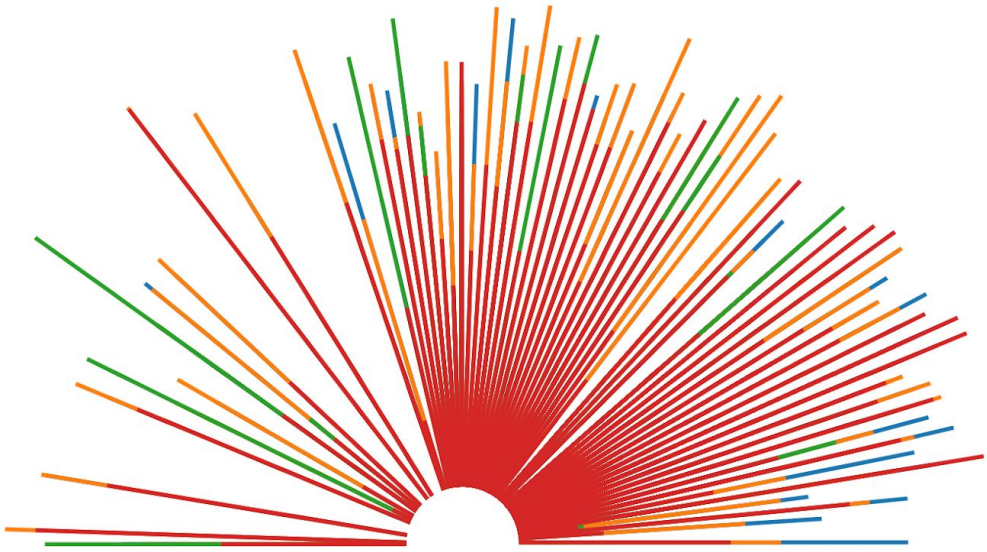

Figure 3. The second visualization

https://pages.cpsc.ucalgary.ca/~sunah.kim/GroupProject/vis2/

The second visualization attempts to use angles as the popularity encoding. The left side is unpopular, and the right side is popular. It is like a stacked bar chart but angled. Like the first variation, each color is a trait of the song. It is like the first variation but the rings have been put together and stretched. The purpose of this visualization was to better see the general trends of song traits for different popularity, by placing traits of data points side by side.

PROCESS OF IMPLEMENTING REPRESENTATION & PRESENTATION

For the first visualization, at first we were thinking of using just a subset of the data, as the popularity value range was big and dense in one area. However when the full dataset was used it turned out fine, since unlike a sketch the window can be scrolled and zoomed in and out. At first when coding the rings, it was done so that it used the ranges in Spotify. But when this was

actually implemented it didn't have a good effect. Thus, range was changed to 0 - max value of the trait. Coding it in D3 made it easier/quicker to experiment in such ways.

Visual 2 started out as a stacked bar chart and then we made it have angles. Seeing it rendered with all the data points made me realize that I did not think about how it would look like with a lot of data. The problem is that close to the origin the lines all mush together making it hard to discern the individual songs. This inspired me to think of different solutions, like making the lines thinner.

GROUP CONTRIBUTIONS

Everyone:

- Went to team meetings/discussions
- Gave ideas of variations to implement
- Wrote this report

Sunah:

- Coding Visual 1 entirely
- Added Legend for Visual 2

Tyler:

- Main code for Visual 2