Ari Iramanesh
Musical Data
Prof. Hansen

Feature Abstraction

What qualities of the audio are the most contrasting? What do you hear? And how does this correspond to the audio features measured?

Hearing the audio tracks, I imagined that the Spectral Rolloff and Spectral Contrast would be most different, since Gangplank Galleon has pretty consistent volume throughout, while the 1812 Overture has a sudden spike in volume in the middle of the track with the (live) cannons! My prediction is correct… but it's hard to make a *strong* case for them, since none of the features seem to be too similar. I believe the difference in Spectral Contrast is mitigated by the sudden drops and spikes in volume that both pieces have (especially in Gangplank, with its semi-staccato marching style).

What qualities of the audio are the most similar? Are the similarities you hear in the audio reflected in the features measured – why / why not?

I imagined the Zero Crossing rate and the Spectral Centroid to be the most similar of the four, simply on the basis that the other two are most different. But I can retrospectively reason it out: both pieces have relatively high volume. Because of that, it takes longer for each period in the waveform to reach a zero crossing, and so they share that in common. It's hard for me to visualize Spectral Centroid, to be frank. Furthermore, the chart doesn't make a strong case that they have a similar Spectral Centroid. I'll have to do more research into this feature down the line.

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What qualities of the audio do you hear that are not reflected in the features measured?

Time signature doesn't seem to be measured… to an extent. I think that the Spectral Contrast measures it weakly. I don't see any of the features convey the difference in speed between the pieces.