Network Tour of Data Science
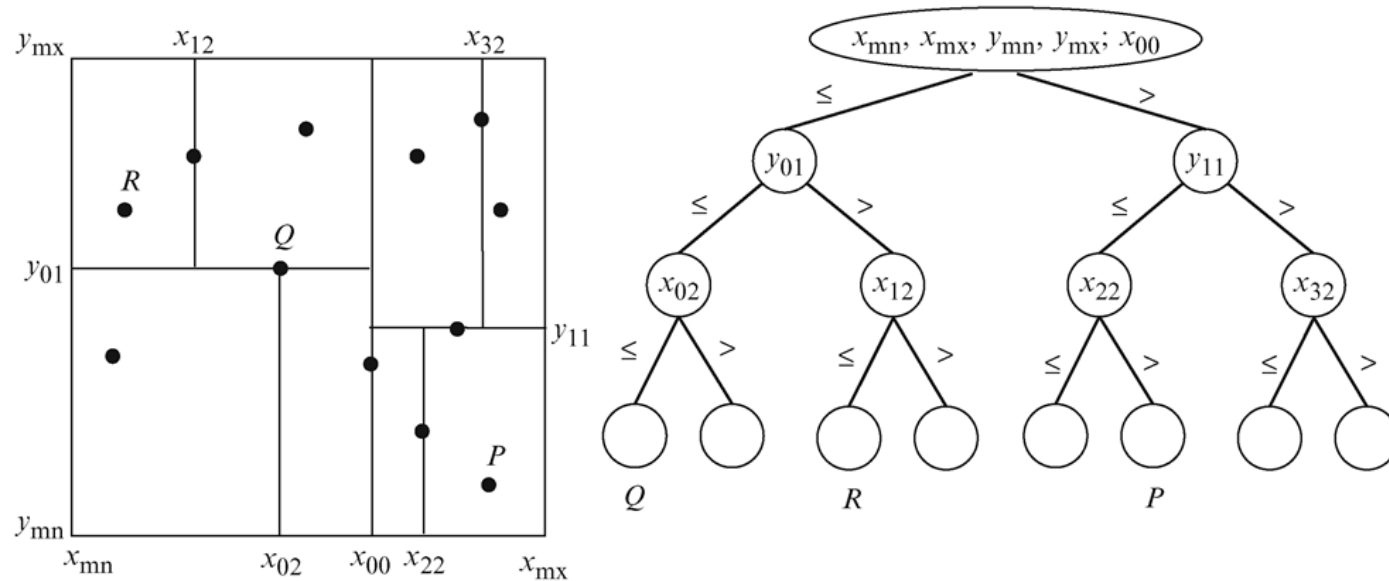
FREE MUSIC ALTERNATIVE PLAYLISTS

Graph Creation

- Distance calculation
  - Normalization
  - Type of distance : Euclidean

- Spring layout
  - 2 dimensions

- 3 genres kept
  - Rock, Hip-Hop, Folk
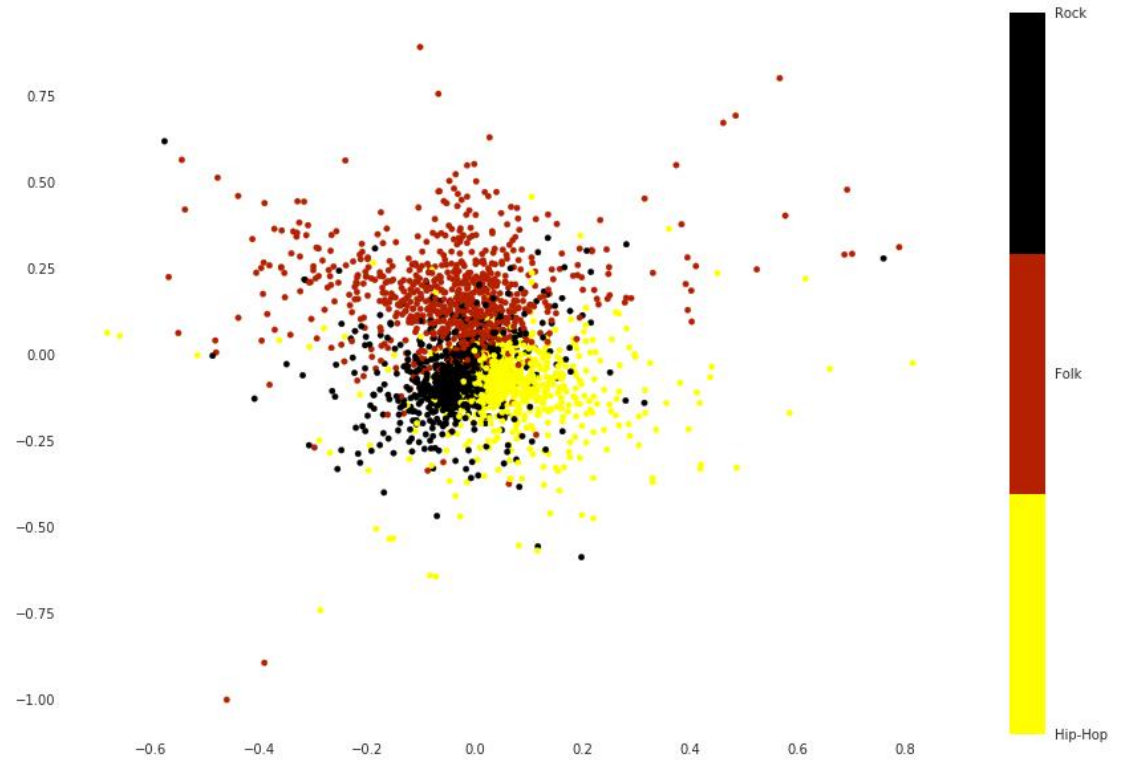
Including our Songs

- Recomputation

- Placement using a K-D tree

Playlist Generation Methods

- 518D space

- 2D graph space

- Heat diffusion

518D Features Distances

- Same distances used to calculate the adjacency matrix

- Closest nodes from each given songs

- Expectation : similar features => rhythm, height of voice, tonality... adventurous in regards to genres

2D Spring Layout Graph

- Euclidean distance between points in the 2D graph

- Again, closest nodes from each given songs

- Expectation : very targeted towards a specific kind of song and genre

Heat Diffusion

- Diffusion from each starting node

- Averaging between all contributions

- "Hottest" nodes

- Expectation : fusion between every given songs properties

G.N=2512 nodes, G.Ne=97968 edges
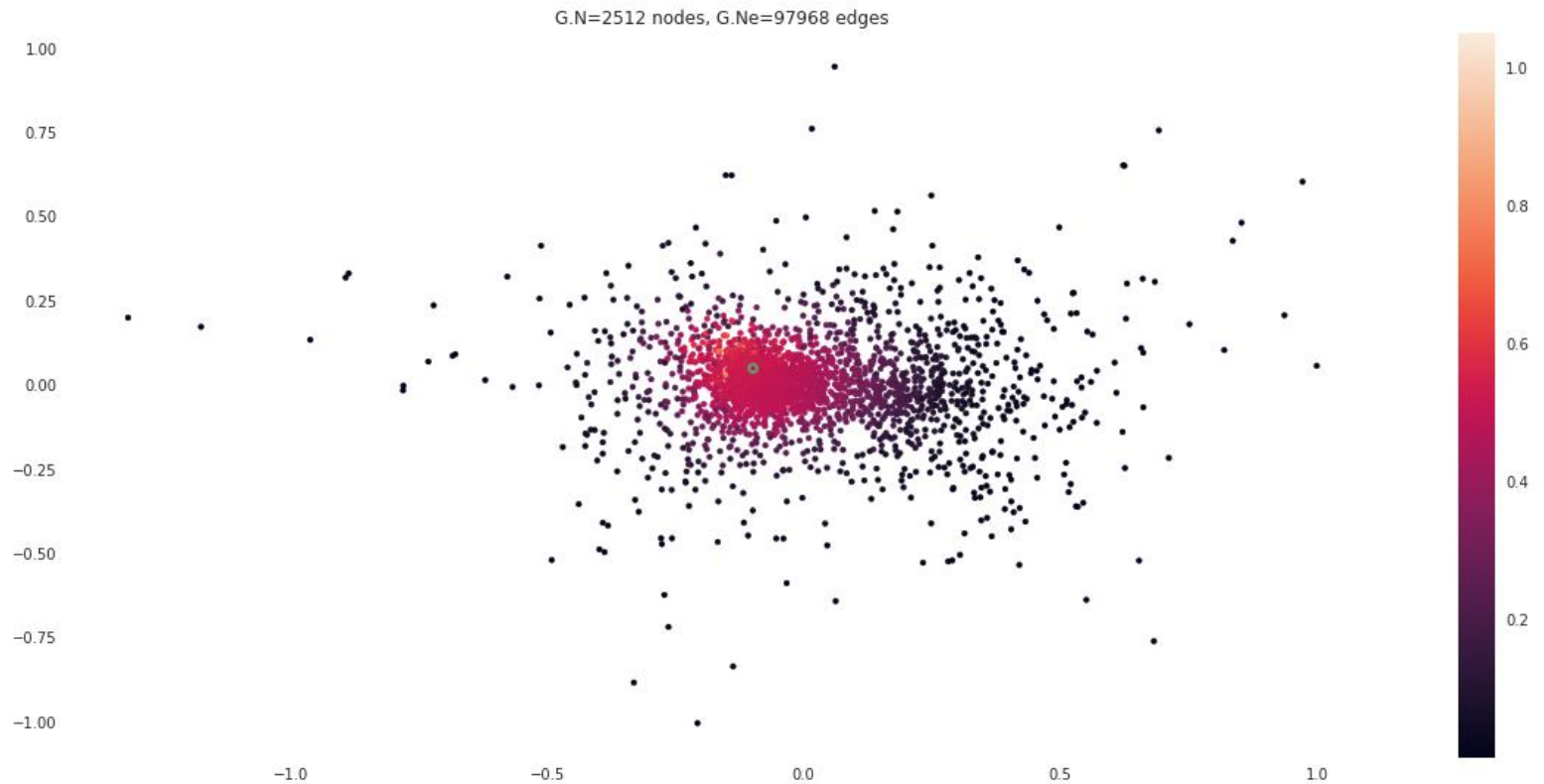
Conclusion and Demo

- Good separation of genres in 2D

- Close performance of different generation methods

- Music is a subjective experience, make yourself an opinion !

Input musics	Output musics : 518D	Output musics : Heat
Pharaos -The Pharaos Theme	Pharaos - Mission Bucharest	MC Cullah - A Dangerous Game
Comfort Fit - Sorry	The Impossebulls - Volume Original Demo Instrumental	Wann - Happy Birthday