

Data Analyst Portfolio Project

“Spotify Overview”

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1- Business Request

As a data analyst who loves to listen to music by using Spotify App, I wanted to show an overview of Spotify's Data as a Dashboard.

I used the Spotify_1Million_Tracks dataset which was extracted from the Spotify platform using the Python library "Spotify", which allows users to access music data provide via APIs.

I took this dataset from <https://www.kaggle.com/> which provides a lot of datasets to analyze.

This dataset consists of about 1 million tracks from 2000 to 2023 and sort of details which are artist, song name, duration, popularity, released year, etc.

2- Data Cleaning and Transformation with Excel

The initial state of the dataset Excel is shown below.

	A	B	C	D	E
1	,artist_name,track_name,track_id,popularity,year,genre,danceability,energy,key,loudness,mode,speechiness,acousticness,instrumentalness,liveness,valence,tempo,duration_ms,time_signature				
2	0,Jason Mraz,I Won't Give Up,53QF56cjZA9RTuuMZDrSA6,68,2012,acoustic,0.483,0.303,4,-10.058,1,0.0429,0.694,0.0,0.115,0.139,133.406,240166,3				
3	1,Jason Mraz,93 Million Miles,1s8tP3jP4GZcyHDsjvw218,50,2012,acoustic,0.572,0.454,3,-10.286,1,0.0258,0.477,1.37e-05,0.0974,0.515,140.182,216387,4				
4	2,Joshua Hyslop,Do Not Let Me Go,7BRCa8MPiyuvr2VU3O9W0F,57,2012,acoustic,0.409,0.234,3,-13.711,1,0.0323,0.338,5e-05,0.0895,0.145,139.832,158960,4				
5	3,Boyce Avenue,Fast Car,63wsZUhuZLh1OsyRzQ7sz,58,2012,acoustic,0.392,0.251,10,-9.845,1,0.0363,0.807,0.0,0.0797,0.508,204.961,304293,4				
6	4,Andrew Belle,Sky's Still Blue,6nXIYClvJAFi6uJLIkEqE8,54,2012,acoustic,0.43,0.791,6,-5.419,0,0.0302,0.0726,0.0193,0.11,0.217,171.864,244320,4				
7	5,Chris Smither,What They Say,24NvptbNKG6sPy1Vh1O0v,48,2012,acoustic,0.566,0.57,2,-6.42,1,0.0329,0.688,1.73e-06,0.0943,0.96,83.403,166240,4				
8	6,Matt Wertz,Walking in a Winter Wonderland,0BP7hSvLAG3URGrEvNnBGM,48,2012,acoustic,0.575,0.606,9,-8.197,1,0.03,0.0119,0.0,0.0675,0.364,121.083,152307,4				
9	7,Green River Ordinance,Dancing Shoes,3Y6BuzQCg9p4yH347Nn8OW,45,2012,acoustic,0.586,0.423,7,-7.459,1,0.0261,0.252,5.83e-06,0.0976,0.318,138.133,232373,4				
10	8,Jason Mraz,Living in the Moment,3ce7k1L4EKzppZpZ1EjWTS,44,2012,acoustic,0.65,0.628,7,-7.16,1,0.0232,0.0483,0.0,0.119,0.7,84.141,235080,4				
11	9,Boyce Avenue,Heaven,2EKxmYmUdAVXlaHCnnW13o,58,2012,acoustic,0.619,0.28,8,-10.238,0,0.0317,0.73,0.0,0.103,0.292,129.948,250063,4				
12	10,Tristan Prettyman,Say Anything,1RJEDlHtp2UJXWpDLpa8OM,45,2012,acoustic,0.657,0.43,1,-10.202,1,0.0314,0.534,0.000238,0.12,0.335,91.967,236379,4				
13	11,David Gray,Money (That's What I Want) - From Jim Beam's Live Music Series,38sSJ12azM6Mic7ajbHKBi,45,2012,acoustic,0.655,0.692,5,-6.217,1,0.0326,0.568,2.34e-05,0.119,0.547,121.455,234270,4				
14	12,Boyce Avenue,Someone Like You,6VtoP2st5toCmpOQIve2sf,55,2012,acoustic,0.439,0.207,1,-9.573,1,0.0297,0.608,0.0,0.186,0.264,136.514,276147,4				
15	13,Jason Mraz,The Woman I Love,0AYG9AacwqEeqgA3OvshPC,40,2012,acoustic,0.591,0.647,4,-8.34,1,0.0277,0.067,6.57e-05,0.231,0.678,79.68,190752,4				
16	14,Eddie Vedder,I Shall Be Released,0J1fIFiSejodqBlyOQ9ASON,44,2012,acoustic,0.45,0.713,6,-7.503,0,0.0386,0.157,0.0,0.992,0.36,74.71,283587,4				
17	15,The Civil Wars,Kingdom Come,1I2c5f9ulw7Ge2eQPdH7w6,41,2012,acoustic,0.497,0.277,4,-11.382,0,0.0373,0.846,4.77e-06,0.111,0.179,81.367,222560,4				
18	16,Gabrielle Aplin,Home,20kpPTTSvI4ok6Gm1uZqtzc,57,2012,acoustic,0.439,0.265,2,-10.72,1,0.0343,0.736,0.0,0.093,0.382,140.494,247002,4				
19	17,Harley Poe,Transvestities Can Be Cannibals Too,46KacVTVMkYXSOjF7tW0X,39,2012,acoustic,0.499,0.614,7,-8.175,1,0.0621,0.151,3.52e-06,0.0555,0.605,89.038,276973,4				
20	18,Ron Pope,One Grain of Sand,3yqJGfvXtPZLjWHVclWtm,49,2012,acoustic,0.713,0.824,3,-7.168,1,0.0393,0.106,8.03e-05,0.13,0.696,120.028,207240,4				
21	19,Sara Bareilles,Once Upon Another Time,7KG9zrC6iP8F1CNIhtR8Y,39,2012,acoustic,0.275,0.216,2,-14.504,1,0.0493,0.896,0.0,0.231,0.0551,95.421,324333,5				
22	20,Harley Poe,The Hearse Song,09ibWmdrePCN2E2Gbm4Aen,39,2012,acoustic,0.512,0.375,11,-9.525,0,0.0652,0.527,0.0,0.109,0.445,183.452,166467,3				
23	21,Jason Mraz,Winter Wonderland,0zXjeGMMe7esPTVqJCN5d8,36,2012,acoustic,0.609,0.359,5,-6.715,1,0.0468,0.777,0.0,0.221,0.645,145.178,127080,4				
24	22,Meiko,Stuck On You,4vfioW5gbZSVwsYtPS1a6s,35,2012,acoustic,0.638,0.538,2,-6.667,1,0.034,0.516,0.0,0.0797,0.843,98.591,186640,4				
25	23,Harley Poe,Ouija,3SUY9IKXcU5VN95FOuJ565,37,2012,acoustic,0.479,0.519,9,-8.022,0,0.0459,0.263,1.84e-06,0.112,0.357,146.819,220160,4				
26	24,Boyce Avenue,Just the Way You Are,2FSkBDGsqZlxcnKngtMLx,53,2012,acoustic,0.531,0.296,1,-7.594,1,0.0304,0.84,0.0,0.124,0.212,106.359,239573,4				
27	25,Eric Hutchinson,Watching You Watch Him,7j6t0kr66wFLkBJjXh5FJ,36,2012,acoustic,0.588,0.71,8,-5.974,1,0.0382,0.043,5.28e-06,0.114,0.63,91.036,211027,4				
28	26,Jason Mraz,Be Honest (feat. Inara George),5TON6xyblyZq34R1807OTT,36,2012,acoustic,0.757,0.308,11,-13.66,0,0.0449,0.851,0.0,0.097,0.47,107.948,205000,4				
29	27,Sara Bareilles,Stay,24xqELXbmKDFLKKr3271jb,37,2012,acoustic,0.262,0.341,2,-8.496,1,0.031,0.589,0.00154,0.14,0.181,99.913,262613,3				
30	28,Harley Poe,Ima Killer,0ijjTpuUC6DGrSt4a4l6Gk,36,2012,acoustic,0.461,0.879,4,-7.341,0,0.0946,0.171,5.16e-05,0.414,0.656,172.178,233373,4				
31	29,Ross Copperman,Holding On and Letting Go,0v0pC1It5p6EBX7pnOGF,44,2012,acoustic,0.486,0.555,2,-9.466,1,0.0271,0.818,0.00269,0.109,0.0992,77.987,317441,4				
32	30,Harley Poe,Everybody Knows My Name,1fHBkl9GcuZq0l5kFkR2r,35,2012,acoustic,0.49,0.662,2,-7.63,0,0.0555,0.108,1.45e-05,0.167,0.662,124.229,186640,4				
33	31,Harley Poe,Still Here,2uUzodl12OH8B86uZ0Jr3,34,2012,acoustic,0.526,0.527,2,-8.403,1,0.0674,0.434,3.5e-06,0.262,0.666,88.263,82680,4				
34	32,Johnnyswim,Annie,65U4bifjXlwueCHG8maEXz,34,2012,acoustic,0.594,0.251,4,-9.036,1,0.0295,0.63,2.8e-06,0.112,0.0502,98.819,270841,4				
35	33,Eric Hutchinson,Breakdown More,2sqNYse3PoPzOAZ2jTIZ,33,2012,acoustic,0.598,0.703,0,-7.313,1,0.03,0.104,0.000118,0.141,0.604,77.998,245880,4				

Firstly, I separated this one-column dataset into columns by using Excel features.

Secondly, I analyze all columns if they have any rows with errors or unusual things. I fixed the rows.

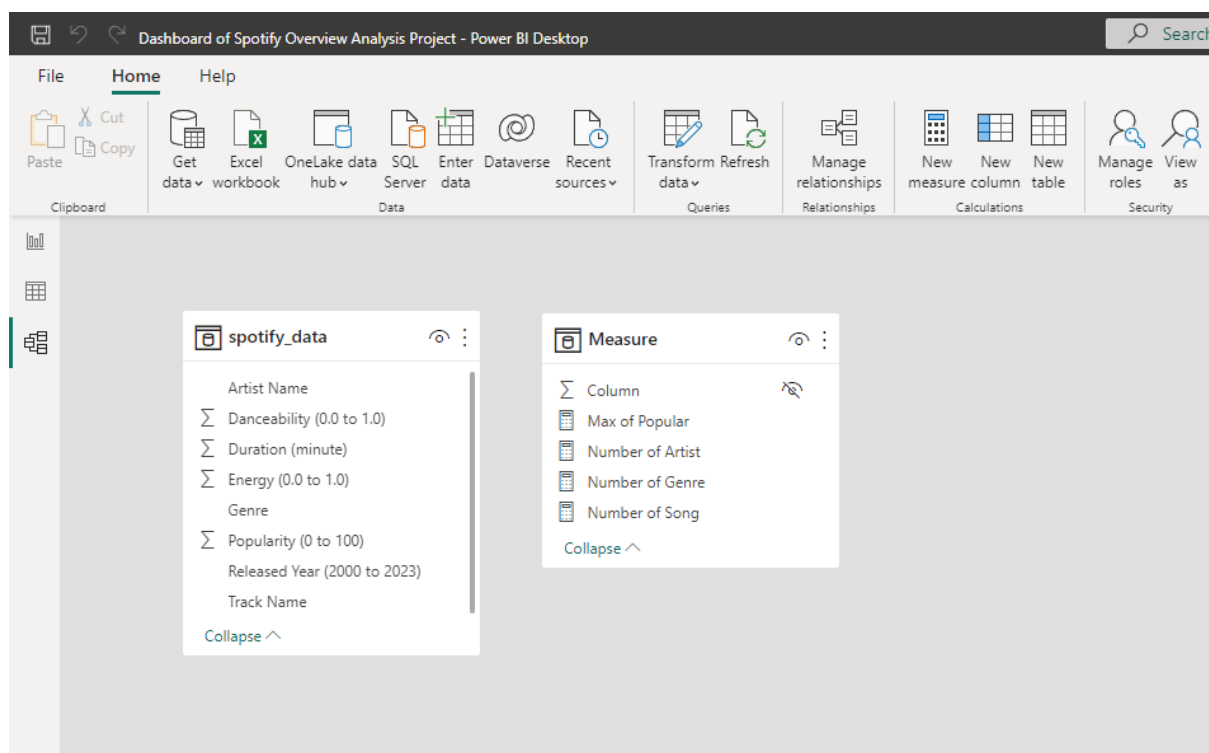
Finally, I deleted some columns which not make any sense and were not useful for my analysis.

The final version of this dataset is shown below.

	A	B	C	D	E	F	G	H	I
1	Artist Name	Track Name	Popularity (0 to 100)	Released Year (2000 to 2023)	Genre	Danceability (0.0 to 1.0)	Energy (0.0 to 1.0)	Duration (minute)	
2	Jason Mraz	I Won't Give Up	68	2012	acoustic	0.483	0.303	4,00	
3	Jason Mraz	93 Million Miles	50	2012	acoustic	0.572	0.454	3,61	
4	Joshua Hyslop	Do Not Let Me Go	57	2012	acoustic	0.409	0.234	2,65	
5	Boyce Avenue	Fast Car	58	2012	acoustic	0.392	0.251	5,07	
6	Andrew Belle	Sky's Still Blue	54	2012	acoustic	0.43	0.791	4,07	
7	Chris Smither	What They Say	48	2012	acoustic	0.566	0.57	2,77	
8	Matt Wertz	Walking in a Winter Wonderland	48	2012	acoustic	0.575	0.606	2,54	
9	Green River Ordinance	Dancing Shoes	45	2012	acoustic	0.586	0.423	3,87	
10	Jason Mraz	Living in the Moment	44	2012	acoustic	0.65	0.628	3,92	
11	Boyce Avenue	Heaven	58	2012	acoustic	0.619	0.28	4,17	
12	Tristan Prettyman	Say Anything	45	2012	acoustic	0.657	0.43	3,94	
13	David Gray	Money (That's What I Want) - From Jim Beam's Live Music Series	45	2012	acoustic	0.655	0.692	3,90	
14	Boyce Avenue	Someone Like You	55	2012	acoustic	0.439	0.207	4,60	
15	Jason Mraz	The Woman I Love	40	2012	acoustic	0.591	0.647	3,18	
16	Eddie Vedder	I Shall Be Released	44	2012	acoustic	0.45	0.713	4,73	
17	The Civil Wars	Kingdom Come	41	2012	acoustic	0.497	0.277	3,71	
18	Gabrielle Aplin	Home	57	2012	acoustic	0.439	0.265	4,12	
19	Harley Poe	Transvestities Can Be Cannibals Too	39	2012	acoustic	0.499	0.614	4,62	
20	Ron Pope	One Grain of Sand	49	2012	acoustic	0.713	0.824	3,45	

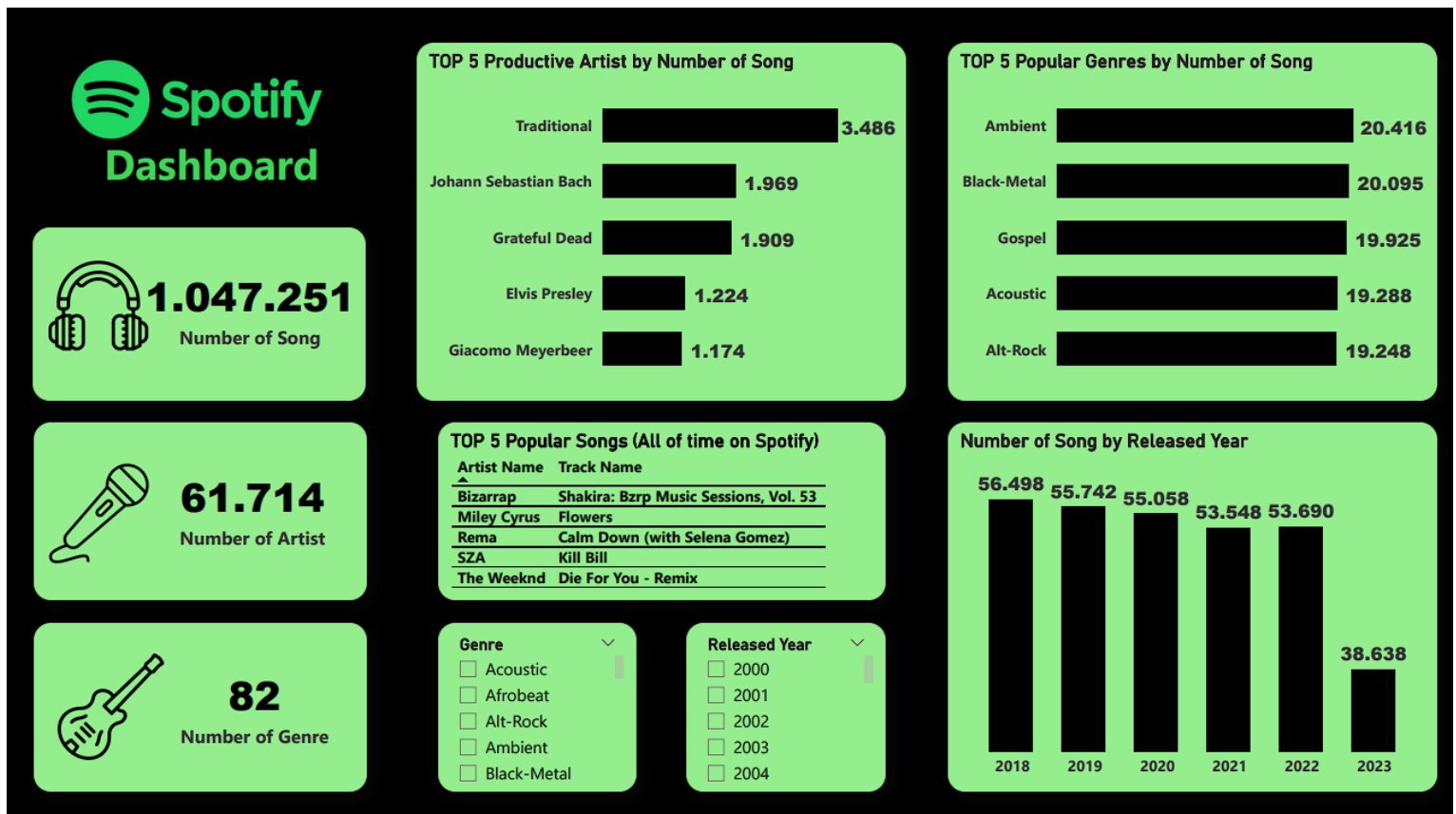
3- Data Model

I created a data model after cleaning and preparing this Excel dataset which was imported into Power BI shown below.



4- Spotify Overview Analysis Dashboard

In light of the data analyses given above, I created one paged Spotify Overview Dashboard.



[You can also click this sentence to open this dashboard online and use it dynamically.](#)