# SoundScapes

Bernardo Vargas      Cristiano Larréa      Paloma Borges

*Abstract*—**This paper details the design decisions and the paths taken to achieve the final visualization called SoundScapes, a deep dive into Spotify's music and the various metrics provided by the platform to classify these tracks.**

*Index Terms*—**music, Spotify, singers, artists, genres**

## I. Choosing the Subject

To decide what topic would be approached and therefore get such project starting, the group decided together what subject would be of not only the members' interest, but would appeal for the users as well, and nothing sounded more universal than music. Looking through related works, such as (INSERIR TRABALHOS REALCIONADOS), the dataset that showed some of the top tracks on Spotify over the last two decades were chosen, since it would be a great way to build a good, interest and interactive storytelling for the consumer.

## II. Goals

Initial goals were simple, creating and pleasant looking page that the user could learn more about the bigger picture of the music scene on the last two decades (according to Spotify's biggest tracks). Further discussions landed on providing a way the consmumers could have an historical view for these last decades (for the different metrics available), analyze how the genres have been doing and even being able to search musics of theis interest and seeing how they were rankes through the metrics, adding the interactiveness and personalization needed for a good project.

With the visualizations ideas designed, the project needed and identity. Always with the objective of constructing an interactive storytelling, the connection between waves (sound waves) and music inspired an idea of making the project resemble a dive in the ocean, starting with a shallow part, a superficial one, and adding depth as you swim out to sea, so, starting with a more generic visualization, adding complexity and interactiveness as you scroll down the page. With that, the deep dive on Spotify's tracks concept was born.

## III. Concepts

Since it was the identity of the project, it was clear that the idea of a deep dive should guide the construction of the page, being one of the primary focus when designing and building the visualizations. The page structure neede to be in harmony with the most important concept of the project.

Besides that, other key concept was the color palette. Although the main idea of the visualizations is to explore the music and its changes and patterns over the years, dataset was directly taken from Spotify, so prioritizing the use of green and black was very important to stay attached to base of the project, its data.

### A. Detailed Description

Opening the page, the user is presented with the project's name and its identity right away, reassuring the importance of the deep dive concept in the manufacturing of the visualizations. Besides that, the connection with the waves is also showed, with the shapes appearing in the background of the green page (also staying on line with the concepts).

Then, in a black page, we get the Spotify with a short description of the dataset, stating the importance of the platform for the project. Also important in this second page is the description of the different metrics the data offers. Even though the names of these metrics are somewhat intuitive, a deeper meaning and showing in which scale each are measured gives the users a much better understanding that allows them to analyze the data shown in the visualizations even better.

In the first visualization, we get a different set of line charts that show the evolution over the years of the different features available, with the average value of such metric on the y-axis and the years on the x-axis. Besides giving the consumers an opportunity of analyzing broadly the change in music thorugh the metrics, this visualization set the stage for the materialization of the concepts. The color palette of black background and green lines on the graphics ties perfectly with the Spotify's logo and the easy, simple and straightforwardness of the line chart connects with the idea of a first step into an ocean dive, the shallow portion of the sea.

With the second graphic being a bar graph of the genres and its popularity and number of songs released in the period, some could be confused on what depth is added in comparison with the first visualization. But the possibility of clicking on each genre and exploring each song personally gets the dive even deeper, adding another layer of inteactiveness as it allows the user to select their favortive genre, gain more information on it and even see the songs individually. Since some genres have a huge number of songs related to them, it is hard sometimes to find an specific track or an specific artists, which ties to the next step into the ocean.

For the final visualzation, a search bar is added that allows the user to search for their favorite songs and all the score the songs got in each metric appears, with its popularity percentage (the metric that was given the most importance) showing at the center. While still with a black background, the scores appear in shades of green and in form of arcs (also on the spotify logo), being less complete when the core is next to zero and more when approaches one (the maximum),

staying well connected to the company's visual. Besides that, this final step ties together the deep dive concept by creating the most personal and interactive visualization of them all.

This detailed description gives a great demonstration of how the concepts really guided the project and its manufacturing, staying on the top of the priorities list all the way true, materializing the identity intended in the initial goals of the conception.

## REFERENCES

Please number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use "Ref. [3]" or "reference [3]" except at the beginning of a sentence: "Reference [3] was the first . . ."

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the abstract or reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors' names; do not use "et al.". Papers that have not been published, even if they have been submitted for publication, should be cited as "unpublished" [4]. Papers that have been accepted for publication should be cited as "in press" [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].

## REFERENCES

[1] G. Eason, B. Noble, and I. N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," Phil. Trans. Roy. Soc. London, vol. A247, pp. 529–551, April 1955.

[2] J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.

[3] I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in Magnetism, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.

[4] K. Elissa, "Title of paper if known," unpublished.

[5] R. Nicole, "Title of paper with only first word capitalized," J. Name Stand. Abbrev., in press.

[6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," IEEE Transl. J. Magn. Japan, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].

[7] M. Young, The Technical Writer's Handbook. Mill Valley, CA: University Science, 1989.

IEEE conference templates contain guidance text for composing and formatting conference papers. Please ensure that all template text is removed from your conference paper prior to submission to the conference. Failure to remove the template text from your paper may result in your paper not being published.