Kenneth Hungria kah2204
Justin Walters jw3043
Mikhail Klimentov idk2146
Team: Octothorpe

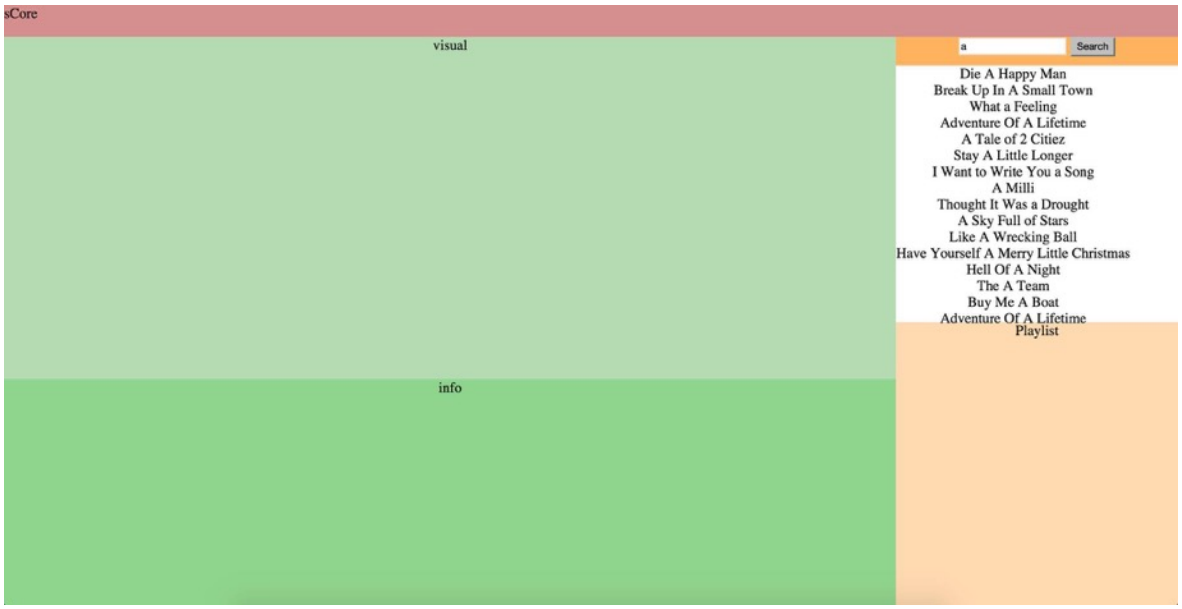
Development Document

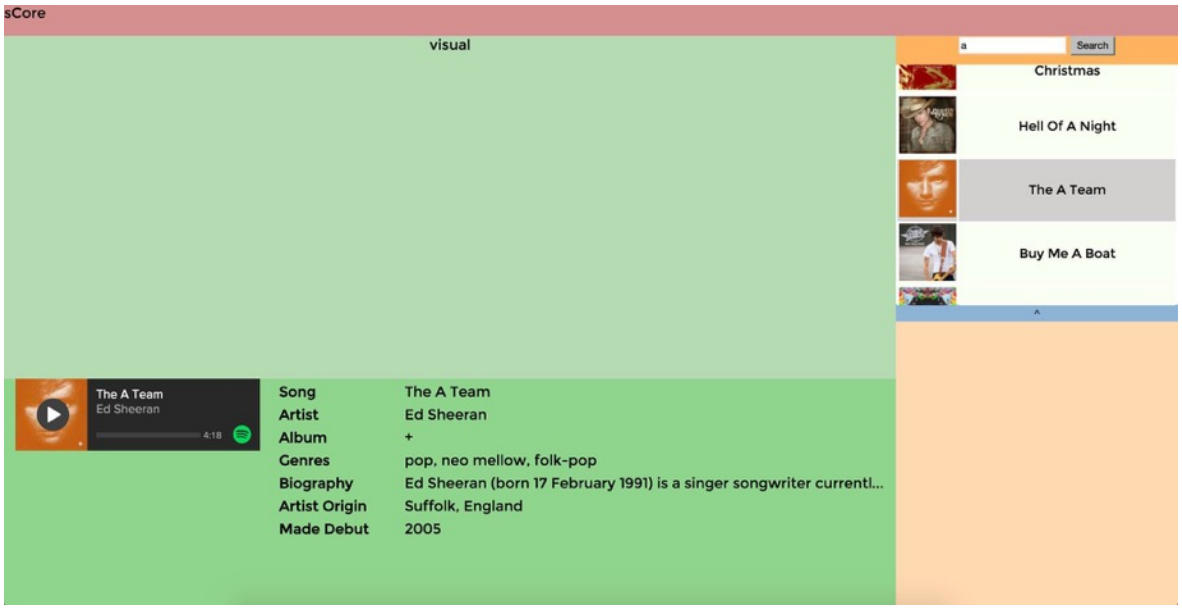
Overall Process: From the start, the three of us met to brainstorm ideas on what topics or ideas we could come up with that seamed viable with echo nest and would be useful enough to be considered an app. Mikhail came up with he initial idea of making an app that would be focused on students who took the class Masterpieces of Western Music. The reason being that there are so many songs that the user listens to and there is so much information on things like tempo and beat that echo nest is able to obtain for us. So we were wondering if it were possible to use specific audio information in order to show how the song plays out throughout. This was the basic premise of the idea and we expanded from there where we wanted them to have a customizable playlist as well as a artist information chart. We separated where Justin was wrote much of the code for obtaining the data via api calls, Mikhail was in charge of formatting and layout and Kenneth was in charge of connecting the data obtained by Justin to output it to the user. Mikhail started with he layout as Justing worked on the API calls. As the methods were being finished, Kenneth was able to start outputting them on the screen. It was a reliant type of work, leading to this being done rather quickly if the previous person had done their part fast. Towards the end, everyone put their part into formatting the layout and look of the page once all the data was being output onto the fields.

Target users: As mentioned in the Overall Process section, Mikhail had come up with the idea of making an app for the students in the Masterpieces of Western Music class which is a common core for many students at Columbia University. As a result, we remember that we had to analyze musical pieces and would have to listen to it in its entirety.

Design Decisions: For the design decisions, there are several things we took into consideration. We wanted the main focus of the project to be on the information that the echo nest API would give. As a result, we gave about 75% of the page for the results of the songs being played. The other 25% is given to the results of the playlist, as these are where the user will be able to select their songs. The reason we wanted the playlist and the results on top of each other is because we wanted the search to be small and compact but also be able to see what choices they have. As a result we made a search with 20 top choices to pick from. These can be dragged to the playlist as we wanted the user to be able to have multiple songs to looks at, especially since homework in Masterpieces of Western Music consists of the students listening to multiple pieces. We also implemented saving the playlists as a way of storage. This way a user can close the app and reopen it to have their playlist still saved in case they have to go back to their homework. This doesn't require the user to have a Spotify account. We also made the rows highlight as this would mean that the user has some power over what they can do to the results. This way the user can know that they can drag the results or that they can double click to play the song and get information. This visual aesthetic allows for the user to know interaction with the results is key. Leaving the playing song highlighted differentiates the result from the others as it lets the user know this is what song is selected. This allows the user to keep track where in the results they are on.

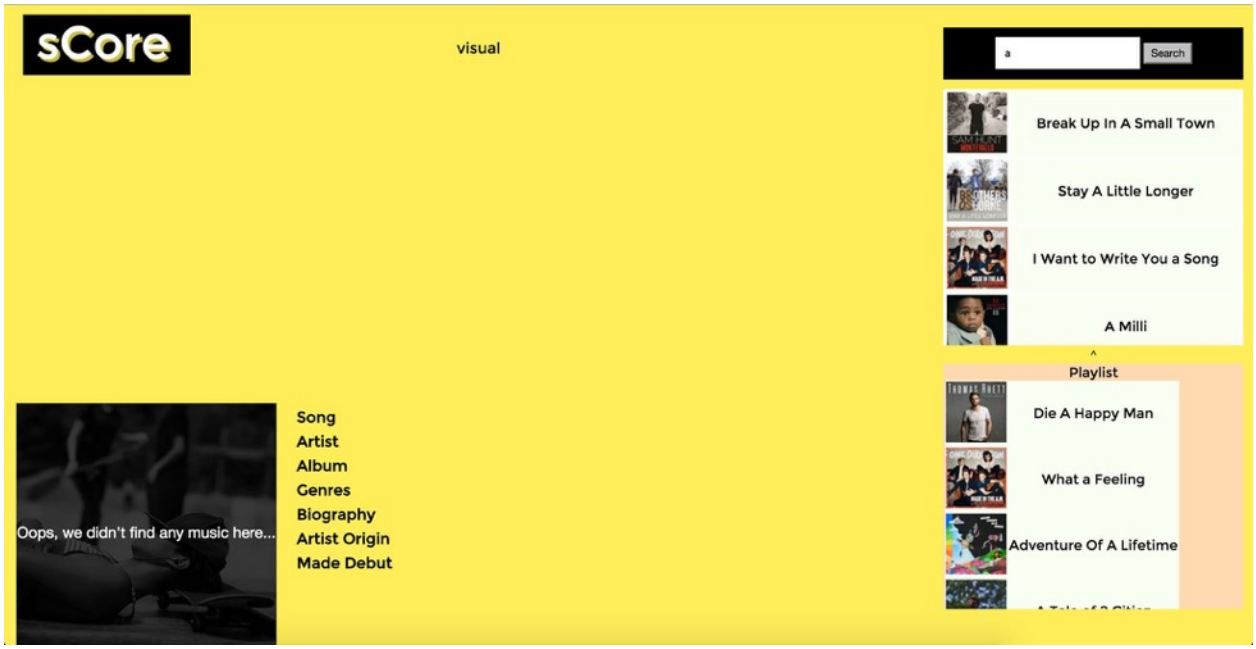
Prototyping and Testing: As we went through the testing process, we kept in mind the goal, to make sure a student using the web app would be able to get the song and information they needed. As a result, we continued to test throughout the process that certain pieces of music can be found and played. As seen below, although the formatting changes, the two are trying to show the same information.




These two are adjustments made from just having the search bar look for songs and it turns into the website showing relevant information on the song that is chosen to be played. In an ideal situation all the information in the table would be filled out but we know that spotify doesn't have all this information for every song, so instead we adjust it accordingly. The table would show that there is no information on this song currently available. Some more changes we made were

drastic, as in the information we depicted. We wanted the design to be more appealing so the following is a result of that.This is just an example of how we wanted to show our finished product, of course with changes needing to be made in playlist.




Here we see the implementation of the visualization with some issues in formatting. At the end we tested our scenarios to see if the songs we wanted were available on Spotify and they were. With that and the fact that we were able to give the user some musical information,

Software Engineering: There are no third-party applications that we used other than the Spotify Web API, Echo Nest API and the Spotify Play Button widget. The rest was all done with the resources of javascript, HTML, CSS and jquery.