Journal Report 1
9/2/19-9/6/19
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Period 1, White

Daily Log

Monday September 9

Researched sound processing packages. Focused on librosa, a Python package which extracts various features of audio files. It's very useful and allows me to avoid a lot of complex math calculations that I would otherwise need to do to complete my project. This package will be useful specifically for calculating MFCC, a sort of graphical representation of spoken sounds, which is one of my project's focuses.

Tuesday September 10

Created a Spotify for Developers account. A lot of the music feature data that I will use for my project (key, modality, tempo) is available on the EchoNest database. The EchoNest API is now available to developers with Spotify accounts, so that makes my life a lot easier since I already had a Spotify listener account. I'll just need to request an API key to access the EchoNest data. I read up on the process for getting an API key (there are 3 different ways and they're all kind of complicated).

Thursday September 12

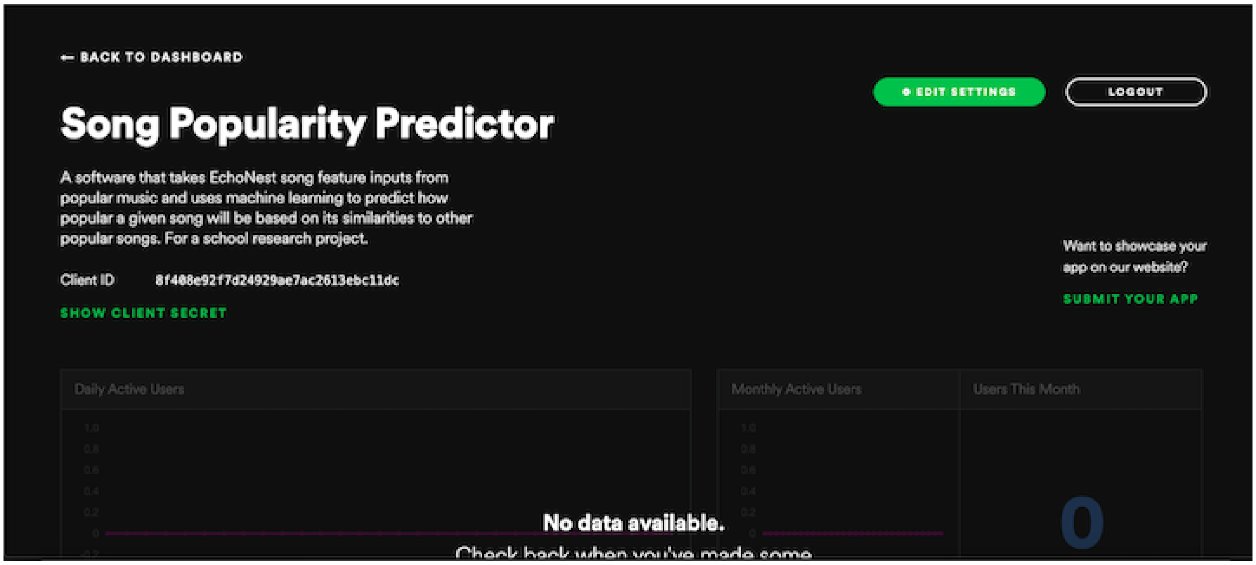
Downloaded Visual Studio Code on my computer. Believe it or not, I've only ever used the JGrasp IDE for my CS classes, so I wanted to update to something that looked better and had more useful features. I spent a lot of time learning to navigate VS Code and getting a better handle on how it works. I also downloaded the Java developer package since you can't work with Java on VS Code without that (I plan on sticking to Python, but I still like to have the option to code in both languages). All in all I figured out a lot of the logistics for my project this week.

Timeline

Date	Goal	Met
Before school started	Submit research proposal and timeline	Yes, did both
8/26/19-9/30/19	Learn about CS Research class, procedures, and requirements	Yes
9/2/19-9/6/19	Create an EchoNest developer account and acquire authentication tokens to use their song analysis features	No, learned that several EchoNest developer tools had been acquired by Spotify and all EchoNest song features can be accessed through the Spotify Web API
9/9/19-9/13/19	Learn how to use Spotify Web API with Python and collect preliminary song feature data from several Billboard Top 100 songs	In progress
9/16/19-9/20/19	Build a logistic curve that takes one specific feature of several popular songs to plot another song's potential popularity on the curve (I'll be comparing a few different methods of supervised learning before I integrate MFCC)	In progress

Reflection

This week, I learned a lot I didn't know about writing offline software that interacts with web APIs and extracting sound data from audio files. I have a preliminary timeline now, and I plan to follow it closely throughout my project.



Song Popularity Predictor

A software that takes EchoNest song feature inputs from popular music and uses machine learning to predict how popular a given song will be based on its similarities to other popular songs. For a school research project.

Client ID 8f408e92f7d24929ae7ac2613ebc11dc

No data available.

Check back when you've made some

Figure 1: My Spotify Developer account and the client I'll use to fetch data from the web API.