# Public Music Radio Stations and New Releases

#### Background

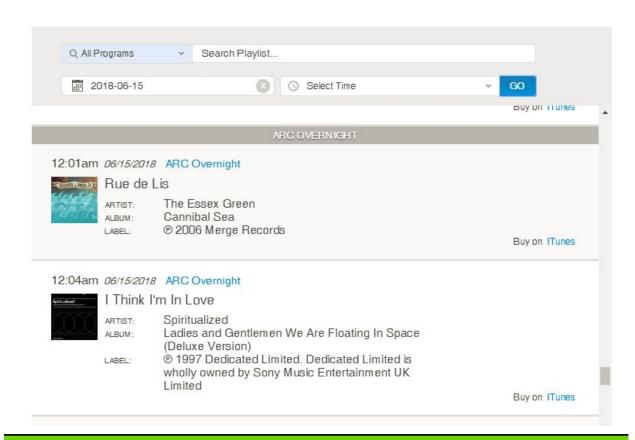
Determine how many plays a new release will get on a given radio station based on features like record label, genre, etc.

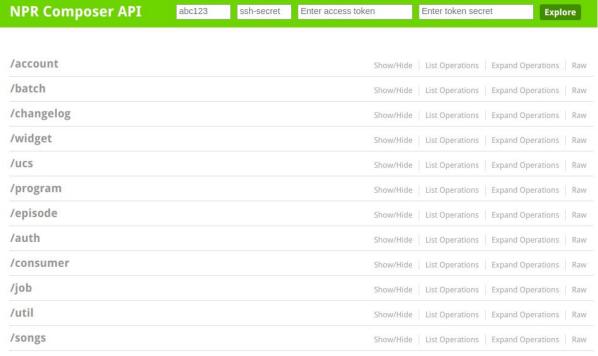
http://wncw.org/playlist-search

# **Data Ingestion**

#### https://api.composer.nprstations.org/v1/widget

Use the NPR API to pull playlist information for local NPR stations across the country. Bellow is a sample playlist widget from WNCW in North Carolina showing the tracks played on June 15, 2018. Gather information on track, artist, record label, release date, genre. Use flask application to stream into backend AWS database. Gather list of all new track releases from Google Music API, Spotify or Music review sites. Also gather historical information of total track plays of past singles from Spotify APIs.





```
{'_duration': 195200,
'_id': '98ec74258a3de66dc5898a62ce85150',
'_start_time': '06-15-2018-00:01:00',
'artistId': '4458442,
'artistName': 'The-Essex.Green',
'collectionCensoredName': 'Cannibal.Sea',
'collectionExplicitness': 'notExplicit',
'collectionId': '122147533,
'collectionName': 'Cannibal.Sea',
'collectionPrice': 9.99,
'copyright': '0-2006-Merge-Records',
'country': 'USA',
'discOunt': 1,
'discNumber': 1,
'kind': 'song',
'primaryGenreName': 'Alternative',
'releaseDate': '2006-03-21T08:00:00Z',
'trackCensoredName': 'Rue-de-Lis',
'trackExplicitness': 'notExplicit',
'trackId': 122147607,
'trackId': 122147607,
'trackName': 'Rue-de-Lis',
'trackNumber': 5,
'trackPrice': 0.99,
'trackTimeMillis': 195200,
'trackViewUrl': 'https://itunes.apple.com/us/album/rue-de-lis/122147533?i=122147607&uo=4',
'wrapperType': 'track'}
```

### Wrangling

Calculate fields for age of track (play date - release date), play count, and % or total plays from label

### **Computation & Analysis**

Analyze data to determine the record label that has the most plays for each local NPR station.

#### Modeling and Application

Feature selection: # of AM/PM plays, age of song, # of new releases for record label in past 30 days, % genres, artist diversification score (# of unique songs from record label), playlist/programming type, holidays/seasonality. Use elastic net to determine if we should use Lasso or Ridge. Most likely will use Ridge since features are dense.

# Visualization & Reporting

Path of a new album over 30 day period actual vs predicted